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Women in lower-level nontraditional roles at two Midwestern durable goods manufacturing corporations: a case study on the perspectives of success

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Women in lower-level, nontraditional roles at two Midwestern durable goods manufacturing corporations: A case study on the perspectives of success

by

Teresa Joanne Keys Hall

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has met the dissertation requirements of Iowa State University

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CHAPTER 1:

INTRODUCTION

In recent years, American manufacturing has met the challenge of increased global competition by cutting costs, improving quality and reliability, and realizing gains in productivity. This runs contrary to predictions in the 1980s that declared the manufacturing enterprise in America dead, or in serious decline (Stern & Taylor, 1990). The reason being that the growth in the service-producing sector of the economy was often at the expense of goods-producing industries during the recessionary periods in the early 1980s. By the end of the decade, manufacturing output and productivity had stabilized, but the raw numbers of employees in manufacturing had declined by nearly two million persons (Plundert, 1990). The hopeful outlook for the future of American manufacturing is based in part on fundamental changes in the utilization of the human resource component of their asset base. By transforming its attitudes toward the labor market, embracing new management techniques, and broadening existing workforce capabilities, manufacturing has tried to keep step with the times.

The darker reality of human resource deployment is that the manufacturing environment continues to be primarily white, male and xenophobic in its demographic constitution (Jones & Walsh, 1991; Lewchuck, 1993). This does not mean that women and minorities have been excluded from employment in manufacturing; these groups are just not commonly found in management, technical, or professional positions within manufacturing hierarchies to date (Department of Labor, 1993a). With corporate downsizing and the

flattening of management structures, power and prestige are difficult things to share when the pool of available positions continues to shrink (Ragins & Sundstrom, 1989).

As recently as the 1970s, women and other nontraditional groups were conspicuously missing from the ranks of managerial, technical, or professional roles within manufacturing hierarchies (Cotter, DeFiore, Hermsen, Kowalewski, & Vanneman, 1995). This was due in part to long held societal beliefs that precluded women from advancement into positions of power in manufacturing and other business-oriented organizations (Boyd, Mulvihill, & Myles, 1995). The segregation of women into more traditional roles of secretary, clerk, assembler, inspector, data-entry operator, or janitor within manufacturing organizations follows the pattern of historical women's occupations (Department of Labor, 1993a). These jobs not only have limited authority and power afforded to the position-holder, they also have lower compensation levels that tend to perpetuate the problematic gap between men's and women's wages (Department of Labor, 1993b).

Although these facts are discouraging, some progress has been made in the area of nontraditional occupational roles for women. Executive, administrative, and managerial positions are being filled by women, especially in service-sector occupations in medicine and health, finance, personnel, and education (Department of Labor, 1989). In 1989, the numbers of women managers in manufacturing ranked fourth behind services, finance and trade occupations as shown in Table 1. These Department of Labor statistics would seem to indicate that manufacturing is making greater strides toward integration of women into managerial roles than some other nontraditional fields such as mining or agriculture.

Other areas where women are making inroads into traditionally male occupations are in health diagnosing occupations (16.5%), chemists (26.9%), computer analysts (41.1%), and architects (20.6%) (U.S. Bureau of Labor Statistics, 1991). Although the growth in numbers of women in nontraditional roles over the past decade has been modest, there is some indication that current trends in women's employment choices may be broadening, due in no small part to the efforts of the modern feminist movement and the changing economic needs of the nation (Rosener, 1995).

Table 1. Numbers and percentages of women managers by industry, 1989

Industry	Women managers (in thousands)	Percent of all women employed
Total	**5,590**	**100.0**
Agriculture	23	*
Mining	28	*
Construction	129	2.3
Manufacturing	647	11.6
Transportation	274	4.9
Trade	865	15.5
Finance	1,014	18.1
Services	2,114	37.8

*Percentage not shown where base is less than 35,000

Common Terms

For the foundation of reader understanding, some of the terms that reoccur in this narrative will be defined. These definitions are taken from sources which have closely elucidated the concept within the foundation of knowledge for the researcher. They are listed in alphabetical order:

Achievement: "Task oriented behavior that allows individual's performance to be evaluated according to some internally or externally imposed criterion, that involves the individual

competing with others, or that otherwise involves some standard of excellence" (Spence & Helmreich, 1983, p.12).

Achievement style: "Characteristic ways in which individuals approach achievement situations and the satisfactions they derive from them" (Offerman & Beil, 1992, p.39).

Leadership: A process where one person in a group affects their behavior to generate outcomes consistent with a common goal (Denmark, 1993).

Leadership style: Ways that men and women lead (Eagly & Johnson, 1990).

Manufacturing: "The mechanical or chemical transformation of substances or materials into new products. The assembly of component parts of products also is considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement" (Department of Commerce, 1992, p. v). Within manufacturing, durable goods signify products that have a life span of more than three years (vehicles, appliances, computers), while non-durable goods are products that normally are replaced in less than three years (clothing, household products, business supplies).

Mentoring: A lengthy relationship between a superior and a subordinate, where the superior showed the subordinate the intricacies of the profession, gave assistance and support, and opened doors of opportunity (Sandler, 1992).

Women in nontraditional roles: "Nontraditional occupations are any where women constitute 25 percent or less of the total employed" (Department of Labor, 1993, p.19).

Historical Perspectives on Women in the Workplace

To get a better grasp of how the current situation for women in nontraditional occupational roles has evolved in the past 100 years, a brief history of women in the

workplace should give the reader some perspective on their situation. This overview will cover the typical occupations, working situations, major legislation affecting women, and discuss the trends in public sentiment of the time period.

Women have always worked, but, for most, the main variation has been the relocation to paid employment outside the home. [Some would argue that women have maintained the responsibilities of family and home in addition to the duties of external employment. That debate is beyond the scope of this study.] New technology, progressive legislation, birth control, economic forces, and social change have been influences that made it possible for women to have access to jobs, money, and power. In these next few pages, I will attempt to give you, the reader, a flavor of the issues that working women dealt with during the past 100 years. This narrative is divided into four sections: 1890 to 1920, 1920 to 1945, 1945 to 1975, and 1975 to the present.

1890 to 1920: Women in industry is not an accident

Women, around the turn of the century, were frequently perceived as delicate things that were unable to perform masculine tasks because of their physical limitations and their lack of mental capacity. The debate over the size of women's brains and their ability to be educated in the sciences, languages, and mathematics had been settled by the successes of women at Land Grant colleges and other institutions of higher learning (Sill, 1972; Soloman, 1985). But prejudices were hard to eradicate, even when the evidence ran counter to Victorian beliefs of the period, and men sought to limit women's education to the fundamentals of household operation and maintenance of her morality (Burstyn, 1980).

Upper class women who worked at this time were primarily volunteers for charities and hospitals, while their less affluent compatriots worked in the factories in a variety of skilled and unskilled positions (Soloman, 1985). These factory women were hardly shrinking violets when it came to hard work. Arthur Munby, an English photographer, documented working women from 1860 to 1910 (Hiley, 1979). Munby described these women as tall, strong laborers who were employed in jobs that were delegated to their gender: sackmaker, fish maid, kitchen scullion, chimney sweep, or coal picker. He also photographed some women who had disguised themselves as men to gain entry into higher paying jobs such as brickmaker, pit brow worker, or chain makers.

Since the European apprenticeship system had not been fully embraced in the United States, there was a great need for technically educated workers in the expanding industrial sector (Cubberly, 1934). In 1906, the National Society for the Promotion of Industrial Education was formed with the interest in advancing education for trade and industrial vocations (Branegan, 1929). In 1912, the Society formally recognized that women and girls also needed vocational education for two reasons: 1) teaching skills made women valuable as employees in industry, and 2) it made women fit for duties in the home (Branegan, 1929).

In a sense, girls were already being taught an apprenticeship by their mothers in sewing, cooking, and weaving, but as these tasks became more mechanized there was less need for these skills in the home (Sumner, 1910/1974). Because of the increasing numbers of women entering the workforce, women's vocational education was provided for in the Smith-Hughes Vocational Educational Act of 1917. Federal funding to the states for trade, home-economics, and industrial education started at $500,000 in 1917-1918 and rose to

$4,250,000 by 1933 (Cubberly, 1934). The training of women in more lucrative occupations such as machine operation, glove making, millinery or dressmaking had the effect of nearly doubling their wages in relation to traditional women's occupational pay rates (Ellis, 1917).

In a report from the Bureau of Labor Statistics, the U.S. Government acknowledged that women were part of the labor force because of "economic pressure and not as a matter of whim or fancy; that there was every indication that they would continue to be employed, probably in increasing numbers" (Department of Labor, 1927, p.639). The Bureau authorized the Secretary of Labor and Commerce to investigate the situation of woman and child workers in the U.S. The Triangle Shirtwaist Factory fire in 1911 that killed 146 women and girls added importance to the need for improved working conditions in factories (Fox & Hesse-Biber, 1984).

In part as a result of the Secretary's study, on June 5, 1920, the Women's Bureau, an agency in the Department of Labor, was established with the mandate: "...to formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, and advance their opportunities for profitable employment" (Department of Labor, 1927, p.640). Even in its early days, the Women's Bureau was an advocate for labor reform and a source of information on women's working conditions. Women in the workforce during this time period grew from 2.6 million in 1880 to 8.5 million in 1920 (Department of Labor, 1927). Table 2 shows the occupational demographics for women in 1920. Note that the numbers in manufacturing are over one-fifth of all working women. The numbers of women in manufacturing in Table 2 includes laborers, skilled trades,

Table 2. Numbers and percentages of women managers by industry, 1920

Occupation	Women (in thousands)	Percent of total employed
Total	**8,550**	**100.0**
Agriculture	1,084	12.7
Mining	3	*
Manufacturing	1,930	22.6
Transportation	213	2.5
Public service	22	0.3
Professional service	1,016	11.9
Domestic	2,187	25.6
Clerical	1,426	16.7

*Percentage not shown where total is less than 1/10th of 1 percent

apprentices and all managerial persons, but clerks in manufacturing are grouped in the clerical categories (Department of Labor, 1927).

The disparity in pay between men and women was documented by the Bureau of Labor Statistics in data collected by the Industrial Commissioner of New York State. For factory occupations for the entire state, women earned 56 cents for every dollar that men earned (Department of Labor, 1927). In each industrial category, without fail, women's wages hovered around the 50 percent mark as compared to men's wages. The Department of Labor acknowledged that fewer occupational choices were available for women and high unemployment in women's industries (i.e., sewing trades) tended to drive down wages. There was also the belief that women had only themselves to support, where men had families. But, in a prescient observation on women in the workplace, the Department of Labor noted:

> In many cases, the burdens of such women would be lessened if there were more general recognition of the fact that women frequently are the sole support of families and have as great a need as do men of a wage rate sufficient to cover the cost of living for dependents (1927, p.652).

1920-1945: The rollercoaster of the depression and World War II

With the ratification of the 19th Amendment to the Constitution on August 26, 1920, women were given the right to vote. The potential ability to influence labor laws and politics in general was not lost on the suffragettes and other feminists, but the political power was firmly in the hands of the white male patriarchy and women's place in society was securely fixed in the Victorian mindset of the era.

By the early 1920s, Frederick Taylor's Scientific Management theory had taken firm hold in American industry as a method of improving productivity and profitability (Marshall & Paulin, 1987). The Gilbreths, Henry Gantt, and Henry Ford contributed to the popularity of the concepts of micro-analysis of work methods, the division of labor, and incentive systems for the worker. This management style was ideal for the first part of the twentieth century when the industrial sector of the economy needed to answer the call for mass quantities of goods for World Wars I and II and an expectant consumer market. However, these methods tended to rob the worker of just compensation for increased output by enabling less-skilled workers to perform jobs, and limit decision-making to managers in the organization (Stevenson, 1993).

In response to the inevitable infiltration of unskilled women and "foreigners" into the rapidly automating factories, white males banded together in the 1920s to form trade unions (Marshall & Paulin, 1987). By enforcing severe penalties on anyone who allowed women to become a member of a trade union, the patriarchy effectively banned women and other

undesirables from access to highly paid manufacturing jobs. The National Labor Relations Act of 1935 attempted to bring labor unions under control but failed to force organized labor to discontinue their exclusion of women (Peterson, 1939).

During the depths of the Depression, in 1932-1933, unemployment rates rose to 36 percent in the general population (Department of Labor, 1936). Women were especially affected due to their already low wages, the irregularity of employment in their occupations prior to the Depression, and the perception that they were taking jobs from unemployed men (Department of Labor, 1936; Oppenheimer, 1970). As a result, many women accepted very low-paying jobs in abysmal working conditions in order to stay off the streets. Sponsored by the Roosevelt Administration, the Fair Labor Standards Act of 1938, known also as the Wage and Hour Law, was primarily aimed at protecting women who were forced to work long hours at wage rates that failed to provide an adequate standard of living (Stitt & Smith, 1939).

However, since domestic occupations had no relation to interstate commerce, the law failed to protect domestic workers, where nearly two million women were employed, a major determinant for governmental regulation (Palmer, 1987). Women, especially married women, were entering the labor force due to the tough economic times, mandatory schooling for children, and lowered fertility rates (Marshall & Paulin, 1987). But there was resistance to this trend. As a clue to the sentiment of the times, in a 1939 AIPO Poll, 67% of the respondents approved of a bill introduced in the Illinois state legislature prohibiting married women from working outside the home if their husbands earned more than $1600 per year (Oppenheimer, 1970).

By the early 1940s, more than twelve million women were employed in the U.S., primarily in domestic work, clerical positions, teaching, food service, and nursing (Department of Commerce, 1943). Women continued to be paid less than men for the same work. This continuing disparity was well represented in a federal case against Westinghouse, where company policy dictated that the lowest paid male job must have higher compensation than the highest paid female job irrespective of the content or value to the company (Heen, 1984 cited in Marshall & Paulin, 1987). With the entry of the United States into World War II in 1941, society's perspective shifted with regard to married women in the workplace and the wages women were paid.

As men responded to the draft, women queued up to fill the vacancies in the factories that they left. The need for munitions, aircraft, ships, vehicles, and uniforms for the war effort, in addition to consumer goods, drove industry to open the doors to elements of the population they had traditionally excluded in the past. Patriotism was the underlying theme, with posters featuring women workers and captions such as "Soldiers Without Guns" and "Women in the War: We Can't Win Without Them" (Wise & Wise, 1994, p. 2). Rosie the Riveter became an icon of the times, encouraging women that they could make a difference. By 1945, women in the labor force had risen to nearly 18 million, or 35 percent of the total working population (Department of Labor, 1945).

At the end of the war, the returning servicemen expected their jobs back and women were often forced out involuntarily and/or delegated to traditional jobs. In their book on women who worked in manufacturing during World War II, Wise and Wise (1994) offered this passage that illustrated the treatment that women received after the end of the war:

> "The guy came back to my specific job," said Vera-Mae Widmer Fredrickson, who was operating a punch press in Minneapolis, Minnesota. "It was union and the punch press was a man's job and had always been. They never had women on it. They put me to work putting labels on switches and I quit. I was furious. I went to the union about it, too. Didn't do a bit of good." (p. 4).

Many women, after experiencing the thrill of accomplishment and better wages in traditionally male occupations, were upset and angry at being dumped by industry or recast into more traditional employment roles. Others were happy to return to their household duties, according to the Department of Labor data on voluntary labor-market withdrawals showing housewives contributing to 84 percent of total departures (1946).

1945 to 1975: From the baby boom to the EEOC

Despite continued discrimination in pay and employment practices, women's numbers in the labor force continued to grow. In 1947, 31.8 percent of the female population was employed; in 1950, the rate was 33.9 percent; by 1960, 38.1 percent of all women were working (Department of Labor, 1967).

Part of the change was due to older married women entering the workforce after their children had entered school or had become more self-sufficient. Traditionally, single women were the main component of working women in the labor force, but they tended to leave when they married and had children. Table 3 contrasts the shift in employment rates over three decades for married, single, and ever-married women.

The occupational segregation of women into traditional roles continued with most women in 1950 in clerical, services, or retail positions (Department of Labor, 1975). The disparity in pay between women and men was still a problem; in 1955 women's earnings had risen to 63.9 cents for every dollar men earned, but between 1960 and 1975 it dipped to as

Table 3. Employment rates of working women by percentage, 1940 to 1960

Marital Status	1940	1950	1960
Married	13.8	21.6	30.6
Single	45.5	46.3	42.9
Ever-married*	33.7	35.5	38.7

*Includes widowed, divorced, and separated

(Oppenheimer, 1970)

low as 58.8 cents per dollar and failed to regain 1955 levels until the late 1980s (Blau & Ferber, 1987). Part of the pay gap could be attributed to the service and non-durable manufacturing sectors of the economy where most women worked. For example, workers (male and female) in the apparel industries earned 62 percent of what workers (male and female) in the transportation equipment industries earned in 1950 (Department of Labor, 1967). The feminization of specific industries still tended to drive down wages as it had in the past.

The Women's Bureau continued to advocate for working women and was instrumental in the 1955 White House conference on a new initiative to break down sex-stereotypes that limited women's contribution to the labor market (Department of Labor, 1990). But change didn't occur overnight. The underlying concern was not so much for women's equality but for protection of the health of women and their young families (Sigel, 1996). Ester Peterson, head of the Women's Bureau from 1961 to 1964, noted in a report from the President's Commission on the Status of Women that women deserved fair compensation and treatment in order to "help them meet their obligations to themselves, their families....We did not propose to restructure society" (Department of Labor, 1990, p. 11).

Betty Friedan's *The Feminine Mystique*, published in 1963, challenged the status quo regarding discrimination surrounding competent women. In the same year, the Equal Pay Act was passed prohibiting discrimination on the basis of sex in wages for jobs requiring the same skill, responsibility, and working conditions (Koziara, 1987). The concept of equal pay for equal work for women was not always effectively enforced. Many federal district judges tended to dismiss cases brought before them because these men tended to have traditional views toward women in the workplace (Koziara, 1987).

Title VII of the Civil Rights Act of 1964 prohibited discrimination on the basis of race, religion, or age, but sex was not included until 1967 by an executive order from President Johnson (Fox & Hesse-Biber, 1984). The Equal Employment Opportunity Commission (EEOC) was created as the enforcement arm for Title VII, but was more focused on racial discrimination in its early years since sex discrimination wasn't always perceived as a real problem in employment situations (Koziara, 1987).

Table 4. Women as a percentage of all workers in occupation, 1950 to 1979

Occupation	1950	1960	1960	1979
Accountants	14.9	16.4	25.3	32.9
Engineers	1.2	0.9	1.6	2.9
Registered nurses	97.8	97.6	97.4	96.8
Teachers, K-12	74.5	71.6	70.4	70.8
Secretary, typist	94.6	96.7	96.6	98.6
Craft workers	3.1	2.9	4.9	5.7
Assemblers	NA	43.7	48.7	53.4
Domestic help	94.9	96.6	96.9	97.6

An examination of the occupational segregation across this time period may prove insightful. Table 4 shows the percentages of women in selected occupations from 1950 to 1979 (Department of Labor, 1980). From the mid-1960s to the mid-1970s, women's numbers in the workplace continued to gradually grow, even though they were primarily employed in traditional roles. Women continued to lag behind men in education levels attained and earnings, and they constituted 70 percent of persons outside the workforce (Department of Labor, 1980). Societal attitudes toward married women with young children were evolving. In 1960, only 18.6 percent of women with children less than 6 years of age were working, but by 1975 the number had nearly doubled to 36.6 percent of working women (Department of Labor, 1980). Encouraged by new protective legislation and the need to contribute to the economic welfare of the household, women were beginning think differently about the workplace.

1975 to the present: How far have we really come?

The initiatives of the previous decade began to pay off for women in the workplace, especially in the area of nontraditional occupational roles. In 1978, women constituted 26.5 percent of the managers, executives, and administrators in the civilian labor force (Department of Labor, 1989). By 1983, the percentage had risen to 32.4 percent, and in 1989, it was 39.3 percent. White-collar positions in fields that already had an abundance of women, such as health care and personnel, were where most of these women managers were concentrated.

Women in the skilled trades were still an anomaly, occupying only two percent of the total labor force for precision production, craft, or repair jobs throughout the 1980s

(Department of Labor, 1991). Women had made some inroads as telephone installers and electronic equipment assemblers but tended to cluster into textile industries as machine operators. A study by the National Academy of Sciences found that women's entry into the skilled trades and other manual production occupations was hampered by the lack of technical training in technology, lack of employer sponsors, harassment, and barriers to all male apprenticeship programs (Department of Labor, 1991a).

Women represented over 25 percent of the workers in durable goods manufacturing in 1980, up from 20 percent in 1970, but they still continued to cluster in larger numbers in the non-durable goods manufacturing, retail, and services occupations (Department of Labor, 1985). Manufacturing reached its highest overall employment level in 1979 followed by two bouts with recession in the 1980s (Plunkert, 1990). Women were affected by the shrinkage in the metal products industries, but also by downsizing in the textiles industry, due to offshore competition from the Pacific Rim (Plunkert, 1990).

In 1987, Morrison, White, Van Velsor, and the Center for Creative Leadership coined the term *The Glass Ceiling* as a way to describe the limitation to upward mobility by women and minorities in management circles of business and industrial organizations (1992). The Department of Labor launched the Glass Ceiling Initiative in 1989 to study the problem, document the findings, and recommend a path to resolution. Their initial results revealed that the glass ceiling was much lower than originally thought, that the corporations under study weren't supportive of EEOC directives, performance evaluations tended to discriminate against women and minorities, and women weren't encouraged to enter nontraditional positions in the organizations (Department of Labor, 1991b). The barriers for

women had now been documented by the government, but changes in corporate policy and culture didn't appear to be aggressively evolving.

Since the first Glass Ceiling Initiative report, there have been hearings before the Senate Committee on Labor and Human Relations (1992) and the House Committee on Small Business (1993), among others. As a result of interest on Capitol Hill, the Glass Ceiling Commission was established to research advancement issues for affected class persons, establish an award for a business that best promotes diversity in management, and to conduct hearings (Committee on Labor and Human Relations, 1992). The results of this Commission are yet to be fully appreciated.

So what is the current situation for women in the workplace? Table 5 includes data from 1994 from the Bureau of Labor Statistics regarding the occupational distribution for women.

Table 5. Numbers and percentages of women employed by industry, 1994

Industry	All employees (in thousands)	Percent of all jobs held by women
Total	**123,060**	**46.0**
Agriculture	3,409	25.1
Mining	669	15.7
Construction	7,493	9.6
Manufacturing	20,157	32.1
Transportation	8,692	28.4
Trade	25,699	47.2
Finance	8,141	58.9
Personal Services	42,986	61.8
Professional Services	29,030	68.8

The trends into July 1996 show that total employment has grown to nearly 129 million persons, with numbers of women decreasing slightly to 45.6 percent of the employed (Department of Labor, 1996a). In 1995 women's earnings had risen to 75.5 cents for every dollar that men earned, but women still tended to gravitate to the service-oriented occupations of health, K-12 education, retail, and clerical (Department of Labor, 1996b). As a result of increased global competition, manufacturing sector jobs were a mixed bag of results, but women did benefit somewhat. Primary metals jobs that tended to employ men lost nearly one-half million jobs since 1960, but the electronic components industry, where women dominate, gained 350,000 jobs (Department of Labor, 1993b). Technology continues to offer new opportunities for women in manufacturing as automated processes and computer controlled systems decrease the physical limitations women traditionally faced.

Trends for the future

The number of new entrants into the job market will continue to decline, while the baby boomers begin to retire from the workforce. Women of childbearing age (16 to 44) will continue to drop from their high of 74 percent of the female labor force in 1988 to nearly 60 percent by the year 2005 (Fullerton, 1994). Manufacturing in the durable goods sector is projected to grow approximately 2.4 percent between now and the year 2005, and non-durable goods will grow 1.9 percent during the same period (Franklin, 1994). These figures seem to indicate that employment in manufacturing will remain rather stable, thus advancement opportunities for women may depend on retirements of current employees. Occupations in professional specialty jobs such as engineering, managers, computer specialists, and technicians are nontraditional fields for women that are projected to grow

decidedly in the next decade (Silvestri, 1994). Training and education incentives proposed by President Clinton in his 1996 election campaign have met with favor from most wage earners. These incentives will mesh well with the needs of women in the workforce of the near future.

The service sector continues to be the bright spot in projections for the next ten years with over 80 percent of the jobs residing within trade, finance, insurance, services, and government (Franklin, 1994). Women are currently heavily invested in the service-producing sector of the economy, and stand to benefit from the continued strength of these traditional occupational fields for women.

Summary of women in the workplace

Women in the American workplace have met barriers in the form of access to jobs, poor working conditions, disparity in pay, promotion issues, and retention problems. In the late 1800s, women were perceived to be less physically and mentally capable of performing tasks in the workplace compared to men. By the 1920s, women had the vote but little else in terms of equality. The government responded to concerns about women and children being taken advantage of by employers with the creation of the Women's Bureau in 1920. Other assistance came through the Smith-Hughes Vocational Educational Act that funded vocational training for men and women.

Women began entering the workforce in greater numbers during and after the Depression due to economic needs, mandatory schooling for children, and as a result of lowered fertility rates. World War II was a turning point for many women who served their country by filling vacancies in the factories to support the war effort. When the men

returned, women returned to traditional female occupations or to homemaking, not always willingly.

Women's numbers in the workplace steadily grew during the 1950s and 1960s in traditional occupations such as education, clerical work, and health care. Major changes in women's occupational roles didn't occur until after Title VII of the Civil Rights Act of 1964, a presidential executive order in 1968 barring discrimination by federal suppliers, and the establishment of the EEOC in 1972. During the 1970s and 1980s, more women were encouraged to enter nontraditional occupations, especially in white-collar positions. The numbers of women in manufacturing showed some growth, but lagged behind finance and service industries.

A recurring issue for women continues to be the disparity in wages when contrasted to men's earnings. In the 1920s, women earned 56 cents for every dollar men earned. This number has risen to 75 cents for every dollar in 1995. Traditionally feminine occupations pay less, even when education requirements are comparable to male occupations. Since the turn of the century, the numbers of women in the wage-earning workforce have grown from three million to over 60 million in 1996. This issue will continue to rankle women until parity is achieved.

The glass ceiling has finally been acknowledged to exist, but solutions to this barrier for women to the upper levels of management may be embedded in corporate culture and societal beliefs. Change depends on the current power-holders in management hierarchies. In all, women have made some occupations traditional by actively pursuing careers in fields

such as computer programming, finance, and retail management. The future for women in nontraditional roles depends largely on economics, education, and access.

Success for Women in Nontraditional Roles in Manufacturing

Presented with daunting obstacles, why do women succeed in nontraditional roles in manufacturing companies? In most large organizations, there are a small core of women who have risen through the ranks and now occupy positions in middle and upper management (Loden, 1985; Allcorn, 1991). These women frequently started in entry-level positions in management, finance, or professional specialty roles; however, their numbers still remain at less than 17% of all management positions in 1992 (Department of Labor, 1993). In 1990, Catalyst, a research group focusing on women in business, found that the finance industry had higher percentages of women in all levels of management than did manufacturing. This was supported in the Department of Labor data found in Table 1.

It should be noted that much of the research literature has focused on women business managers. These women have high profile positions in white-collar occupations, and research on these subjects garners interest and funding support in academia and in business research studies (Catalyst, 1983). Articles calling for more women to enter technical or industrial careers are common (Windecker, 1991; Brush, 1991; Liedtke, 1995; Tringham, 1994), but offer little solace to the women currently employed in manufacturing in low-level positions.

Research on women in manufacturing frequently addresses discrimination and stereotyping issues (Lewchuk, 1993; Hanson & Pratt, 1991; Heilman & Martell, 1986), blue-collar issues (Lillydahl, 1986; Vezina & Courville, 1992), or problems in specialty fields

such as engineer or scientist (Grigor, 1992; Hornig, 1984; Brush, 1991). Women in the lower levels of the manufacturing hierarchy in nontraditional roles appear to have been bypassed in women's studies research. One of the largest professional organizations for manufacturing personnel, the Society of Manufacturing Engineers, does not track the demographics or even the number of women members in their organization (personnel communication, April 4, 1996). This would seem to support the contention that women in manufacturing are a rather invisible group. It begs the question: how do women in nontraditional roles successfully perform their duties in spite of all the challenges they face?

What exactly is success?

Success can be defined in many ways: power, money, authority, loyal followers, possessions, happiness, respect, influence, fulfillment, inner peace, or satisfaction. In reality, success is the byproduct of other pursuits and is dependent on the goals of each person. The CEO of a multinational corporation may define success in different terms than a production scheduler for a job-shop. It's all relative to goals and values.

Many studies have been done to measure the success, as determined by promotion, of women in upper management in the field of business. Loden defined successful traits in terms of management functions: use of power, problem solving, motivating employees, setting goals, decision making, and teamwork (1985). In an extensive study of 100 professional and business women, five consistent factors were attributed to their success: driving ambition and achievement orientation, intense passion for their work, vision, results-oriented, and people skills combined with business savvy (Gardenswartz & Rowe, 1987). Morrison, et. al.(1992), defined six success factors that successful executive women

acquired: a mentor, excellent track record, need to succeed, management ability, willing to take career risks, and the ability to be tough and demanding. The ability to exploit successful traits or styles diametrically opposed to success, such as attention to detail, when combined with traditional masculine behaviors has been suggested as a formula for success for women (Adams, 1979).

A recurring theme of success for women managers in business and industry seems to revolve around a core of attributes: leadership style, achievement style, and having a mentor (Morrison, et al, 1992; Bancroft, 1995; Loden, 1985). A discussion of each of these elements follows.

Leadership style

Leadership has many faces and the literature defines it in many ways. A definition derived from the literature is that leadership is one person inaugurating change in a group by moving them toward a desired result (Denmark, 1993; Rosener, 1990; Bass, 1985). More commonly, leadership *style* is the focus of management research studies. Leadership style is a set of methods employed successfully by persons identified as leaders in organizations. These styles have a variety of dichotomous descriptors such as transactional and transformational (Rosener, 1990), task and interpersonal styles (Eagly & Johnson, 1990), authoritarian or democratic (Loden, 1985), or charismatic versus command and control (Bass, 1991). Much attention has been focused on the gender differences of leaders and the positive or negative results of their style (Shultz, 1994; Eagly, et. al, 1992; Korabik, Baril & Watson, 1993). The characteristics determined to be feminine versus masculine leadership

styles have been thoroughly studied, compared, measured, and analyzed with a mix of results.

Eagly and Johnson have theorized that gender roles may affect leadership style, but occupational roles have a greater impact on leader effectiveness in an organization (1990). There is evidence that intercompany social controls have a higher impact on behavior than a person's socialization (Epstein, 1988). Therefore, from these two concepts of behavior, it can be suggested that the tenor of an organization is more likely to influence management style, rather than the gender-based leadership style preferences of managers. Eagly and Johnson (1990) found that the people-centered approach commonly utilized by women managers (cooperation, collaboration, problem solving by empathy, and intuition) is effective *if* the position warrants this management style.

This theory gained further substantiation in a meta-analysis focusing on leader evaluation. Women in business and manufacturing managerial positions were found to be selectively devalued by study participants when these women regularly utilized more masculine approaches to leadership or management (Eagly, et al, 1992). The effective manager/leader must determine whether a feminine or masculine style is warranted by the specific situation. If a command and control approach was utilized by a woman when the subordinates needed a collaborative, people-centered method to address the problem, the woman was penalized more than a man using the same tactics.

In a study of conflict-management style, women managers were found to be more in sync with men managers in terms of approaches and results when compared to female subordinates' conflict-management styles (Korabik, Baril & Watson, 1993). Women with

managerial experience were found to use more masculine approaches to situational conflict resolution in role-playing exercises than women with no management experience.

Conversely, there are studies that support the theory of gender differences in leadership style. In their meta-analysis of leadership styles, Eagly and Johnson also found that democratic versus autocratic methods of managing are more commonly utilized successfully by women (1990). Rosener contended that women use a transformational leadership style characterized by encouraging participation, sharing power and information, enhancing the self-worth of others, and motivating through enthusiasm (1990). These elements of "feminine" leadership style are contrasted by "masculine" leadership attributes: autocratic and assertive, maintaining power from organization position or formal authority, rewards or punishment for performance, analytical and competitive (Rosener, 1990).

Notwithstanding, there is a growing body of evidence that successful leaders use a combination of traditionally masculine and traditionally feminine styles to achieve results in different situations (Billing & Alvesson, 1993; Rosener, 1990; Eagly & Johnson, 1990). This concept of a combination of feminine and masculine leadership styles is described as an androgynous style and has been found to be effective for leaders of either gender (Scandura & Ragins, 1993; Cann & Siegfreid, 1990), but has special implications for women leaders who must find balance between their feminine strengths and masculine organizational structures (Rosener, 1990; Schaef, 1992).

Achievement style

Achievement styles are ways that persons behave in opportunity situations and derive satisfaction from those situations (Offerman & Beil, 1992). Achievement motivation theory,

as espoused by Helmreich and Spence (1978), has four main components: 1) mastery; preference for difficult tasks, holding high internal standards, 2) work orientation; work hard and perform well, 3) competitiveness; need to succeed over others, and 4) personal unconcern; not worried about what others think about self achievement.

Some researchers have found that women tend to gravitate toward work orientation themes and distance themselves from competitive situations (Spence & Helmreich, 1983). In other research, women leaders commonly utilized an *intrinsic direct* achievement style, characterized by measuring performance by an internal standard of quality (Offerman & Beil, 1992). This is consistent with Bancroft, who used the term "trooper" to describe a woman who works very hard but tends to get caught up in the task rather than seeing the big picture (1995). However, this type of woman can succeed if she compensates for her shortcoming, according to Bancroft.

Women leaders often receive satisfaction by helping others from a position of power and frequently use a wide variety of techniques to lead (Offerman & Beil, 1992). This observation meshes well with Gilligan's reasoning that women equate power with giving and care, and in adult development, women differ from men in their perceptions of achievement, justice, and morality (1993). Gilligan found that women recognize interdependence in problem-solving situations earlier than men, thus shaping the ways they make decisions. The ability to see the interconnectedness of a problem to the larger goals of the organization was a positive attribute many successful women managers exhibited (Bancroft, 1995; Morrison, et al, 1992).

Mentoring

A mentor is described as someone with power or influence, who takes an interest in a person lower in the organizational structure, guides them through the pitfalls and nuances of the organization, and has an impact on their rise through the ranks (Sandler, 1992; Collins, 1983). Mullen (1994) proposed that the mentoring relationship was reciprocal in terms of information exchanged between the protégé and the mentor, with both parties benefiting from the information being shared. This is encouraging, since mentoring activities have been suggested to have sexual connotations when the pairs are mixed gender (Ragins, 1989), thus women may have more to offer a mentor in terms of information sharing, rather than the stereotypical male/female relationship.

It has been postulated that women in traditionally male organizations must have a mentor to gain acceptance and credibility in the managerial hierarchy, to provide inside information, or gain feedback on management decisions (Burke, et. Al., 1990; Sandler, 1992; Ragins, 1989). Regardless of the utilization of the mentor, research indicates that women who have mentors have more positive outcomes in organizations (Wholey, 1990).

There are few women currently in positions of power, and they may not be inclined or able to enter a mentoring relationship, especially in manufacturing hierarchies. Mentoring relationships for women in nontraditional careers primarily consist of female protégés' and male mentors (Ragins, 1989; Collins, 1983), or women's requests for information from respected or powerful male peers (Mullen, 1994). The overall effect of gender difference between mentor and protégé has not been found to be significant in results for either participant (Burke, McKeen & McKenna, 1990) and may have to suffice until more women

are available as potential mentors. Due to the lack of women in powerful positions in the management hierarchy, women may have less opportunity to develop a relationship with a mentor (Ragins & Sundstrom, 1989).

Summary of the Chapter

Women in the workplace have succeeded in rising from the low-skilled, low-paid laborer to the corner corporate office suite. Although the former has been, and continues to be, the experience for most women throughout this century, women have made great progress in the past 25 years in pay and equity issues. However, there are sectors of the economy that continue to attract larger numbers of women than manufacturing; construction, agriculture, or mining, and where wages are much higher on average. Healthcare, finance, retail, service, and K-12 education continue to be feminized occupational fields, along with their wages.

Research studies on women in nontraditional roles have had a tendency to look to white-collar business and management positions rather than skilled trades, blue-collar occupations, or technical/professional personnel. This is due, in part, to the larger numbers of women in these positions. Also, the dream of being manager of a company is much more enticing for most people, rather than becoming a production supervisor in a machine shop. Studies of specific occupations within manufacturing, especially involving women, are not common.

Success for women in nontraditional roles in manufacturing could be based on putative extrapolations from women managers in business. If these suppositions are accurate, leadership style, achievement style, and having a mentor may be positive factors in

successful outcomes for women in manufacturing. But success is not something that is easily transferred from one person to the next. Therefore, success may only be in the eye of the beholder.

CHAPTER 2:

THE STUDY

In the previous chapter, the historical implications for women in the workforce show that it has been an uphill battle for most, and successful outcomes in terms of upper management positions have been afforded to very few women. The current situation for women in nontraditional roles is mixed, with women gaining acceptance in finance and health services businesses at decision-making levels, but professional/technical and managerial careers in fields such as manufacturing, construction, transportation, or mining have yet to attract significant numbers of women according to Department of Labor data. This study focused on women in nontraditional roles in manufacturing organizations. This chapter will disseminate the mechanics of the study: rationale, justification, design, research questions, sample selection, data collection, researcher profile, and assumptions.

Problem of the Study

The goal of the study was to discover how women in nontraditional roles in entry level up to middle management levels in manufacturing perceive the factors of success within the context of a male-dominated culture. Leadership style, achievement style, and having a mentor are factors that have been significant among success factors for women in upper management roles in business and industry in previous research (Morrison, et al, 1992; Billing & Alvesson, 1994; Adams, 1979); therefore, these factors were the starting point for inquiry.

Success factors described in the research, however, often are idiosyncratic to the culture or profession under study. Empirical studies of women in nontraditional roles in

positions other than executive officer or high-level manager are few, and seldom specifically address women in manufacturing (Itzhaky, 1995; McGuire & Reskin, 1993). Given these limitations, studies of women in management roles in white-collar business occupations have a thread of common themes concerning women in the workplace (Bancroft, 1995; Hood & Koberg, 1994; Wright, et al, 1985) and those results may have significance to this study.

There is also a need for empirical studies using women in specific typological environments, such as manufacturing, rather than utilizing university students' perspectives on managerial women in general (Eagly & Johnson, 1990; Heilman & Martell, 1986; Offerman & Biel, 1992). From this study, the body of knowledge on women in manufacturing can be expanded by focusing on women currently employed in lower levels of the organization in manufacturing. We may also gain insight into their particular interpersonal style and methods of succeeding in a predominantly male environment.

Purpose of the Study

The purposes of this study are:

1. To describe the factors that contribute to successful outcomes for women in manufacturing in nontraditional roles within a real-life setting.
2. To expand the limited body of empirical knowledge on women in nontraditional roles employed in lower levels of manufacturing organizations.
3. To describe the experiences of women in nontraditional roles in their own words so as to communicate to others the female perspective on the manufacturing career experience.

This study is also important because there remains a need to understand the current situation for women in nontraditional roles in manufacturing and explore their perceptions of success. It is hoped that the results of the study would give a voice to the women who work in these nontraditional roles, so that others can understand their situation.

In addition to the specific knowledge gained from this body of work, having a deeper understanding of other manufacturing personnel's experiences beyond my own is valuable in developing a larger sense of the issues that surround workplace cultures. As the study progressed, I found that the female perspective of the manufacturing culture was contiguous to their perceptions of success; therefore, I sought to understand some of the issues regarding the impact of corporate organizational culture on women in manufacturing.

Design of the Study

The goal of this study was to gain an understanding of how women in nontraditional roles in manufacturing perceive success within the context of a male-dominated culture. Since this research strives to describe the situation for women in manufacturing "as it is" rather than predict or show causation, the research design was descriptive. Ary, Jacobs, and Razavieh (1990) depict descriptive research as "...directed toward determining the nature of a situation as it exists at the time of the study" (p. 381).

Under this design, I used qualitative methods to collect and analyze the descriptive data of the study. According to Glesne and Peshkin (1992), qualitative methods seek to "...understand and interpret how the various participants in a social setting construct the world around them..." (p. 6). The nature of qualitative inquiry was a preferred method over quantitative methods since the complexity of the situations and the nature of the problem did

not lend themselves to traditional statistical data collection and analysis techniques. I also elected to pursue an ethnographic approach for data collection and analysis due to the dearth of previous studies on women in lower levels of the manufacturing organization. From these findings, future qualitative and quantitative studies may find a toehold on this seemingly blank wall.

For the purposes of this study, the ethnographic method can build an understanding of the detailed work preferences, the nuances of interactions between people, and build an emic description of the culture under study (Wolcott, 1990). The need for understanding perceptions of success for women in nontraditional roles in manufacturing took precedence over testing hypotheses based on previous research in similar, yet distinct, populations. To clarify my choice of methods for this study, a brief discussion of research paradigms and their relationship to the study of culture may prove illuminating for the reader.

The qualitative method, ethnography, and culture

The difference between quantitative and qualitative methods lies in the goals for inquiry and the methods utilized in the collection of data. Quantitative methods are primarily within the realm of beliefs in the constancy of nature, the ability to confirm theory scientifically through neutral observation, and the propriety of inferring to a larger population based on empirical-experimental conclusions (Garrison, 1986). These assumptions have been challenged by the naturalistic or qualitative view in that knowledge claims regarding human beings are situational, that observation is value-laden, and that it is difficult, if not impossible, to extract observations of specific phenomena from the circumstances surrounding the observation (Borg and Gall, 1989).

Qualitative methods acknowledge that research can be value-laden, situational, and that an inductive data-analysis approach can be appropriate for the goals of developing grounded theory and gaining understanding (Bogdan & Biklen, 1992). Thus, qualitative methods encompass "thick" descriptions to describe the culture, persons, or situation, an emergent design that evolves through the course of the study, and data that are words rather than numbers. Clifford Geertz, in conveying an idea borrowed from Ryle, used the term *thick description* to describe the efforts of ethnographers: collection, analysis, and interpretation of the collected data (Geertz, 1973).

> The point for now is only that ethnography is thick description. What the ethnographer is in fact faced with...is a multiplicity of complex conceptual structures, many of them superimposed upon or knotted into one another, which are at once strange, irregular, and inexplicit, and which he must contrive somehow first to grasp and then to render (p.10).

Geertz goes on to say that thick description is the task of theory, that making sense of a set of behaviors or experiences (i.e., interpretation) *within* the data rather than *between* different studies should be theory's goal (1973). This interpretive view of theory is at odds with the traditional goals of scientific inquiry where prediction, explanation, causation, and control are paramount.

Denzin (1989) concurs that the interpretive point-of-view perceives theory as a tool to facilitate the understanding of the process being studied in the research. He goes on to say that "...formal theory is a means to a goal, not a goal in its own right." (p.17). Therefore, the foundation of theory that I utilized regarding leadership, achievement and mentoring as explanations of successful outcomes for women in manufacturing unified meaning interpreted from the data.

The interpretation of a culture, a situation, a concept within an act, or shared experiences of a group are given meaning within thick description. The symbols of language, meaning, and actions within the manufacturing culture are what the players use to interact with each other. Thus, symbolic interactionism suggests that every person perceives the world differently (Denzin, 1989). So, your interpretation of my writing may or may not be similar to my intended interpretation of the informants perceptions of success, but it is also acceptable within this research paradigm.

Culture and interpretive theory

Another emergent theme was the impact of manufacturing culture on the women in nontraditional roles. The link between the study of culture and this study reaches into the world of the human sciences. The qualitative method can trace some of its roots to anthropology where ethnographers attempt to describe cultures under study (Wolcott, 1990). But culture can be described and defined in myriad ways, each unique to the perception of the interpreter. Anthropologists and sociologists have traditionally held much sway in the characterization of culture as part of their responsibilities in studying human nature.

Kroeber and Kluckhohn (1963) offer their perspective in where "...culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups..."(p.357), while Keesing simply describes culture to be "...the system of knowledge more or less shared by members of a society." (1981, p. 509). Another definition that might be more relevant to this study, comes from Geertz (1973) suggesting that:

> The concept of culture...is essentially a semiotic one. Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning. (p.5)

Geertz cautions that the analysis of the symbols of culture should be restricted to "concrete social events and occasions" and strive for "sociological aestheticism" keeping within the realm of reality rather than "drifting into a combination of intuitionism and alchemy" (1973, p.30). His semiotic view of culture, utilizing interpretive methods for deriving thick description, and belief that the results not necessarily be held accountable to verification (Geertz, 1973) have met with a variety of responses.

Criticism of the interpretivist theory espoused by Geertz has been that it is theoretically and methodologically weak, leaving critical evaluation of the results to each person's perspective (Shankman, 1984). "As the analysis of meaning has become more cryptographic, it seems to have acquired the same elusiveness that functional analysis had 20 years ago..."(p.269). Brintnall (1984) believes that anthropological schools of thought tend to gravitate to personalities that dominate the landscape, thus giving credence to interpretivist thinking that is espoused by Geertz and his supporters.

This discordant view is common in the social sciences where the debate over methods, theory, relevance, and changing paradigms is ever present and part of continuing discussions about the directions the field is taking (Denzin, 1989). The term "blurred genres" may have some explanatory power here, where the boundaries between the social sciences and the humanities have become less well defined (Geertz, 1983). Social science researchers delving into areas such as health care, mass communications, business ethics, or other diverse areas of interest have made concerns about the discipline more pointed.

In defense of Geertz's interpretive theory of culture, Marcus and Fischer (1986) see this approach as seeking to understand, describe, and translate the subject for the reader and adding a critique of the culture as a capstone. "The ethnographer tries to generalize what he has learned epistemologically by expanding the import of this lesson in a foreign culture to the conditions of knowledge in his own home culture"(p. 145). Geertz's tendency to include some element of cultural criticism outside the thick description of the ethnography has been seen to have metaphorical impact because it is delivered as a suggestion rather than as gospel. Geertz (1988) presents this defense of interpretivist ethnography:

> If there is any way to counter the conception of ethnography as an iniquitous act or an unplayable game, it would seem to involve owning up to the fact that, like quantum mechanics or the Italian opera, it is a work of the imagination, less extravagant than the first, less methodical than the second. The responsibility for ethnography, or the credit can be placed at no other door than that of the romancers who have dreamt it up (p. 140).

Understanding success from more than surface observations, such as number of promotions, salary level, or rank, enabled me to build a more complete picture of the nuances of achieving success in the related experiences of women in manufacturing. This study offers an analysis and interpretation of the meaning of success from the perspective of the informants within the culture of their respective manufacturing organizations.

Therefore, this study utilized qualitative methods to develop an understanding of success from the perspective of women in nontraditional roles in a manufacturing setting and presents the results as thick description. As the study progressed, the culture of the workplace materialized as an issue that colored the respondents' perceptions of success. This is consistent with the qualitative method. As the data were being collected, concurrent analysis revealed this emerging theme -the impact of the culture of manufacturing- as having

an influence on successful outcomes for the respondents. A more complete discussion of culture can be found in Chapter Four.

Research Questions

This study sought to understand the perceived contributing factors of success for women in nontraditional roles in manufacturing. The factors of leadership style, achievement style, and having a mentor were found to be significant to women in nontraditional roles in other careers and were the starting precedents for inquiry. The research questions were developed as a result of a pilot study conducted to clarify and direct my understanding of success for women in the context of the manufacturing environment. A complete description of the pilot study methodology is provided in Appendix A.

The research questions were as follows:

1. How do women in nontraditional roles in lower levels of the manufacturing organization define success within the context of their experience?
2. Do women in nontraditional roles in manufacturing organizations utilize the constructs of leadership style, achievement style, and mentoring to produce success?
3. Are there other factors that have greater significance on achieving success as defined by women in nontraditional lower level roles in manufacturing?
4. Are these women different in their perception regarding the selected factors that contribute to success than women or men occupying traditional roles in manufacturing environments?

Collecting the Data

Since authority, autonomy, and performance are frequently tied to advancement within firms (Jaffee, 1989; Allen & Panian, 1982), the ability to be promoted or offered new opportunities within the organization is often relative to the "size" of the company. For this reason, two manufacturing organizations with more than 500 employees were targeted for locating respondents. These larger companies may have the capability to provide more opportunities for women in nontraditional occupations to develop power over others in the organization (Hollander & Offerman, 1990), and were more likely to be offer developmental opportunities to women as part of a long-term investment plan for employees (Mannix, Neale, & Northcraft, 1995).

Both companies also could be characterized as having low growth, long-linked technology, and long product life cycles that tend to promote organizational cultures oriented toward work outcomes, stability, and detail orientation (Chatman & Jehn, 1994). Thus, these types of firms encourage employees to remain at the company for longer periods of time and, therefore, gravitate toward internal promotion rather than looking outwards to hire new technical, professional, or managerial personnel.

The companies

The Alan Company and the Baker Company[1] both had more than 500 employees and were producers of durable goods for targeted global markets. Both companies had experienced a steady reduction of their wage and salaried workforce starting in the 1980s and finally leveling off in the 1990s. Women in nontraditional roles were interspersed

[1] The identities of the companies and the respondents have been modified to protect their anonymity.

throughout the lower levels of the management hierarchy, yet neither company had women in executive positions.

The companies were selected due to their mutual similarities. The human resource managers at each firm were also willing to facilitate access to employees for interviews. In addition, these Midwestern companies were located within one day's driving distance for me, enabling me to conduct interviews at times that were convenient for the respondents. A complete description of the companies and the participants will be provided in Chapter Three: Content and Characters.

The participants

The research participants for the study were selected women in nontraditional roles, women in traditional roles, and men in traditional roles. The selection of the study participants was contingent on the ability of this researcher to locate a key informant(s) at each company, thus providing access to participants in positions that were considered nontraditional for women, yet traditional for men. The human resources department at each company gave permission to contact employees, and, at both companies, a person from human resources acted at times as a "gatekeeper" in helping identify possible participants for the study. In the end, however, the researcher made the final decision to include a specific person, primarily based on their occupational role meeting the criteria of the study.

Selection of the respondents was dependent on specific criteria such as job title, area of responsibility, recommendations from other respondents, and human resources personnel. The researcher also gathered information about potential study candidates through

conversations with key informants and through inquiries made to current employees at either company.

The first two female participants were identified by the researcher based on a brief work relationship over ten years ago. They were able to each recommend other women in nontraditional roles, unfamiliar to the researcher. As recommendations were made, potential participants were screened to determine if their job title or role in the organization was nontraditional or traditional according to Department of Labor guidelines. When their status was determined, they were contacted by telephone, briefed on the intent of the study, and asked if they would participate. A convenient time was arranged to meet, usually at their facility.

The participants' job titles included: production scheduler, purchasing buyer, laboratory analyst, assembler, manufacturing manager, industrial relations manager, production supervisor, and design engineer. Purposeful selection of the participants is a characteristic of qualitative research design and facilitated the collection of appropriate data. Patton (1990) contends that purposeful sampling focuses on selecting cases that give depth of understanding of the situation under scrutiny. That was the case for this study.

The in-depth interviews sample was eight women in nontraditional roles, two women in traditional roles, and five men in traditional roles within the manufacturing environment. The women at Alan Company were selected by chain sampling techniques where participants would identify other women working in nontraditional roles at other facilities to the researcher. This method developed a pool of over 25 names for scrutiny. Utilizing *snowball* or *chain* sampling techniques is consistent with the qualitative method and allows the

researcher to integrate participants that will facilitate the needs of the study much more effectively (Bogdan & Biklen, 1992). In addition, *criterion* sampling was used to assure that the interview respondents met certain requirements of the study as a method of quality assurance (Patton, 1990). The two women in traditional female roles were found in a similar fashion, by asking if there might be a woman peer who had responsibilities that were clerical in nature.

The five men were selected randomly from a larger pool of 20 names provided by Alan Company human resources. The men were not briefed by human resources other than being told that they might be contacted to participate in a study and they were free to decline if they did not feel comfortable about participating. The e-mail message that each man received from human resources regarding the study was forwarded to the researcher; thus, I was aware of what they had been told about the study. Alan Company human resources had no contact with the researcher after providing the names and phone numbers of the men and had no way of knowing which men in the sample were selected until after they had been interviewed.

Interviewing technique

For the collection of data, I utilized the technique of in-depth interviews with open-ended questions. A copy of the core interview questions can be found in Appendix A. The interviews were audio tape-recorded and transcribed by the researcher, verbatim.

The method of interviewing subjects about their experiences and perceptions is desirable when the anticipated findings are obscure and there is a need to discover unanticipated themes (Bauman & Adair, 1992). The open-ended interview question also

allows the respondent to relate their perspective on the topic in a meaningful and knowledgeable way (Patton, 1990). Thus, the interviews were able to evolve with the flow of the discussion, incorporating new themes as they emerged and allowing the respondents to elaborate on issues that were important to them. Transcripts were completed soon after each interview, and facilitated analysis of the data for the researcher. Interviews conducted later in the study incorporated new questions regarding themes that emerged from data collected in previous interviews. This evolution of the focus of the data collection is also consistent with the qualitative technique.

In addition to the in-depth interviews, I utilized key informants at both companies to verify the themes I believed were emerging from the data. My informants were both male and female employees who were not part of the in-depth interview data collection. I also made follow-up phone calls to the interviewees to clarify issues that were vague or needed more information to become complete.

Another source of data for the study was my fieldnotes. Prior to starting the interviews and throughout this project, I kept a diary where I noted impressions, physical descriptions, short conversations, my thoughts regarding the research, and ideas for further investigation. This has facilitated the reliability of the interpretation of the data.

Researcher Background and Biases

So that you, the reader, can have a better understanding of the biases and perceptions that I bring into this study (regardless of how hard I try to be objective), an overview of my manufacturing experience is presented here. Realize that not every incident, interesting situation, or short-term drama that occurred during this time period could be included.

Rather, this researcher has tried to relate significant events as recalled to give you a better idea of my world "as I see it." Most of the events occurred many years ago; therefore, I will relate it in the third person, since it is a personal history, rather than a description of current events.

Nearly 20 years ago, the researcher was hired by the Alan Company as a foundry mechanic during their push to comply with Federal EEOC guidelines. Being one of only four women hired into a maintenance pool of nearly 200 men, it would be an understatement to say that they stood out from their male peers. The researcher held several jobs in nontraditional roles before employment at Alan Company (heavy equipment operator, automotive department manager, gas station attendant), but nothing could have prepared her for the culture shock she encountered.

Within the first week at Alan, she was given jobs that required physical strength, mental toughness, and an enormous sense of humor. Her height (5'9") and physical strength proved to be assets that would repeatedly be called upon during her tenure as a mechanic. She was very proud of the fact that she was able to do many of the tough jobs the men could do with little or no assistance that the other women usually required.

However, this didn't mean that she wouldn't be tested in other ways. Her first "trial by fire" was four days after being hired. She was paired up with two male mechanics and they were given a work order to replace a tailpulley on a 300 foot long sand delivery belt. It was a tough job, requiring strength and creative problem solving. One of her male partners was trying to lift a bearing assembly into place when his pants split open from front to back. Not wearing any underwear, he laughingly apologized, but continued to work while

everyone else on the molding unit watched her face for a reaction. She commented "seen one, seen 'em all" and kept on working. Her male co-workers laughed and relaxed. She seemed to have passed a test with her fellow mechanics. There were other tests later, but this was the first, and certainly memorable. The researcher quickly discovered that women had to "dish it out as fast as they got it" or there was the risk of being labeled an outcast. From then on, she was the instigator and the recipient of endless pranks and practical jokes that were devised by the maintenance group to break up the monotony of working in the tough foundry environment.

Passing the test with the male supervisors was not so easy. As she was told years later, her supervisors were directed by management to make life so difficult for all the women mechanics, it was hoped they would quit before their 90 day probation was completed. They were forced to mop floors, sit in the office while being screamed at for minor infractions, and referred to as "whores and sluts" by their supervisors. The abuse had most of the women in tears in the locker room more than once.

When her brother was killed in an auto accident five days before her probation period ended, a supervisor saw it as an opportunity to get her to quit rather than offering sympathetic support. His threat to give a her written warning for missing work (a firing offense) were grounded in the fact that she had naively brought a newspaper clipping of the details of the fatal accident, rather than the required note from the funeral director. The only thing that kept her from quitting that night was another mechanic who took her aside after hearing what had happened, put his arm around her and told her that the supervisor was an "ass" who would get his payback from one of her male peers. This show of support from

co-workers rather than from management was the "us against them" mentality that characterized wage-salary relations at Alan Company at the time.

She stuck it out, getting in her 90 days, then six months and then a year. Only one of the group of four women didn't make it through the probation period; she hurt her back trying to lift a 75 pound grinding stone onto an arbor. The abuse by the supervisors had become less confrontive, primarily consisting of derogatory remarks behind their backs. Many of the male mechanics were strong supporters, standing up for them to sexist peers and supervisors. But other wage workers would often remind the women mechanics that they were taking jobs away from men with families, trying to be something they weren't meant to be, accusing them of being lesbians, spreading rumors, and leaving them with the dirtiest jobs. At the first opportunity, the researcher bid on a job at another foundry facility that had a reputation for a more progressive management style.

When she transferred to the new facility, the treatment by supervisors and peers was totally different: respectful, praise for her mechanical ability, and fair job assignments. It was a new concept to receive decent treatment from supervision and peers alike. For the first time, she began to seriously consider the possibility of being promoted to a white-collar, salaried position. But the only way anyone could be promoted out of the wage ranks was to have a relevant college education. Her first try at higher education after high school was as a major in Special Education; however, she had left school after a short time. She now returned to college as an Industrial Technology major during the day, working in the foundry at night.

The researcher was promoted to a salaried position within a year of returning to college. There were three reasons she believed she was promoted. First was that she was working on a degree. Next, she had made a conscious effort to keep her repair area in top order, reducing the downtime it caused the production line, and making sure her supervisor knew just how much effort was being expended to maintain the machinery. Working hard, reducing downtime, and being conscientious about the job were traits that were highly valued in the Alan culture.

The last reason was that she challenged a middle manager (who was notorious for having a foul temper) on an issue that she believed he was in error. At the end of each shift, the wage men could go to their locker room through any of three entrances at the front of the building, taking a direct route. The wage women had only one entrance which could be accessed directly by cutting through a vestibule in the office complex or by walking the extra equivalent of a city block around the offices. This manager didn't like the wage people walking in this area, so he limited access to the vestibule for trips to medical or office business. She confronted him as he was doing a tour of the production floor about the unfairness of his decision. After a tense verbal exchange, he stomped off, but a couple of days later rescinded the order. He remarked to her a year later that very few people in the plant had the backbone to take him to task about issues and he appreciated her direct approach to get the matter resolved. He remembered her when her name came up as a potential candidate for a salaried position and gave his approval.

After the researcher's promotion to maintenance planner, she had to start proving herself all over again, but she found that her experience as a mechanic facilitated her

understanding of the complexities of the job. She was the only planner (male or female) with hands-on experience in maintenance, so she quickly built a reputation for solid schedules, cost savings, and thorough research on large projects. She was promoted quickly to the top of the labor grade for planners and became a "showpiece" for the maintenance department as an example of Alan's commitment to women. She still sometimes received off-color comments from managers and supervisors, but had learned that a well-placed glare or just glossing over the statement as if she hadn't heard it usually took care of the situation.

During the 1980s economic downturn in manufacturing, Alan Company laid off nearly half of its wage workforce by seniority within a two-year time frame. Cutting back the salaried workforce was less straightforward. At first, there were layoffs in specific departments, then terminations by performance rankings. Both of these methods resulted in lawsuits being filed against the company. Management then tried to move employees into open positions by labor grade without consideration of skills. Only having five years seniority at the time made the researcher vulnerable. Soon, she was selected to be moved to another facility to fill a position as a metallurgical lab assistant. She was very unhappy, being forced from her high profile position in a place where she was well liked, moved to an obscure department where she was a "gofer" for engineers who had no idea of her background or capabilities.

The researcher was not alone. Two other women from clerical positions were also moved to laboratory assistant positions. All three women were in shock, trying to figure out why they were being punished. The engineers and managers in the lab treated them like idiots because they were unfamiliar with materials science concepts. The physical nature of

the job meant they were frequently covered with grime from head to toe. The researcher became depressed and felt abandoned by the company she had worked so hard for. It was a low point in her career at Alan Company.

After a couple of months, she became tired of the assumption by the engineers that she was stupid because she didn't have an engineering degree, so she qualified for and joined Mensa. It was a way for her to get some self-confidence back. She hung her membership certificate over her small desk in the lab for all the engineers to see. At about the same time, she also purchased a Corvette, the most masculine car she could afford. She drove like a female Mario Andretti, roaring into the lot, parking it next to the engineers' pathetic little cars as an indirect challenge to their masculinity. The condescending treatment she had received began to evolve into deference and eventually respect.

As the months went by, the women in the lab formed a tight group with their male technician peers, working hard to improve the department to be more efficient and accurate in its metallurgical analysis. They made some inroads on the communication problems with the engineers, and department management gave the technicians credit for their improved productivity by purchasing some much needed equipment.

After a couple of years, the researcher was offered an opportunity to return to maintenance planning for a new department. Back in her element, with a better understanding of manufacturing materials, thanks to her lab experience, she was again working in an field where she could really excel. She could talk the language of machine tools, wrangle parts and improved deliveries out of reluctant suppliers, and rub elbows with the mechanics with ease. She felt like a queen with a new kingdom.

But all was not well at Alan Company. After the initial white-collar workforce reductions four years earlier, management had tried to retain most of their salaried personnel. Offering early retirements and losing some people to attrition, the salaried workforce seemed to stabilize without the need for additional cuts. But then, after several consecutive disastrous quarterly sales figures, the company needed to cut wage and salaried workers alike. The next three years were very difficult for the Alan Company workforce.

Like many other white-collar personnel, the researcher had built a network of peers (primarily males) who were in a similar situation: low seniority, nonproduction roles, very worried about the downsizing. With each new layoff or cutback, the group would try to determine what pattern Alan Company management was using to pick the next set of "victims", trying to guess if their time had come. Wisely, management changed the selection criteria each time they "separated" white-collar employees to protect the company from litigation. The rumors that flew about the next round of reductions during those years were constant. Some were accurate, others were ridiculous. It seemed at times that more effort went into gossiping about cutbacks than the work that needed to be done.

In the late 1980s the researcher was terminated (management called it *involuntary separation*), along with a large group of her peers, due to low seniority. When it finally happened, it was such a relief -depressing, but a relief. In retrospect, she realized that ingratiating herself to more powerful managers rather than powerless peers would have been a better strategic move for her long-term employment tactics. An advocate or supporter in upper management circles had paid off for some employees through their retention during

the salaried labor force cutback. This worked much better than her tactic of bonding with supervisors and fellow planners.

She was free to start her life over, but soon discovered that many manufacturing companies were dubious about her credentials. They couldn't believe that a woman actually had the experience she purported to have in this nontraditional field. Another problem seemed to be her lack of a college degree. It was as if all the experience in the world meant nothing if a person didn't have a document to back it up. During her tenure at Alan Company, she had continued to chip away at her bachelors degree and, at the time of her separation from the company, was within one year of completion. She finished the degree and, strangely, returned to the Alan Company as a consultant.

It was hard, working next to former peers knowing that they felt guilty for not being the one that was terminated. But the researcher was also angry that she was being paid a fraction of what she had been making previously. She took as many assignments as she could get during that time, building a new network of supporters and learning as much as possible about new processes and technology. She thought she could get rehired. But she finally realized that a thin veil had fallen between her and her peers, that the researcher was an outsider who did good work, but didn't have the right connections to make the impossible happen.

In that year as a consultant at Alan, the researcher gave a lot of time to introspection about what she was doing and realized that this was a golden opportunity to make a career change. Going over her assets like a laundry list, she knew she needed to find a place where a woman with her nontraditional manufacturing experience would be appreciated. She quit

the consultant job (it felt really good to leave **them,** for a change) and returned to school in pursuit of her masters degree with a goal to teach manufacturing technology at the university level. This doctorate symbolizes the completion of her quest for a formal education.

Epilogue

As a temporary instructor at a Midwestern University in 1993, I found there were few, if any, women entering programs that would eventually place them in industrial positions, particularly manufacturing. In my earlier years in manufacturing, I had become a strong supporter of the feminist movement in an effort to learn how to protect myself from the barrage of negativity I encountered in the manufacturing environment. Time had tempered my views and the manufacturing culture, but I still felt that women absolutely belonged in manufacturing. I believed that strength was in numbers and that if more women were encouraged to look at manufacturing as a potential career field in occupations other than in traditional clerical roles, there was great potential for challenge and reward for them.

The purpose of this study was a search to find out if there is a "holy grail" of success for women in manufacturing roles. As you can see, my experiences in manufacturing were not always uplifting, but as a whole, I truly enjoyed the fast pace, the mental challenges, and the camaraderie that a manufacturing environment can offer. At the very least, I want to understand other women's perspectives of manufacturing and success in a sense other than my own views.

Assumptions

In this section, I will note some of the assumptions that I had going into this project. The first assumption is that women **can** succeed in the manufacturing environment and that

the failures or barriers they experience can serve as springboards to learning and opportunity. I assumed that the women I included in the study perceived themselves as successful in their own right. Failure is a difficult thing to face and we often tend to deny it happens to us, but I have always felt that after the initial hurt, something positive can come out of the most disastrous situations. In this sense, failure never has the last word. I also assumed that the women in the study who occupied nontraditional roles had arrived in their positions due to choice rather than happenstance.

Another assumption I had was that the same male-dominated environment continues to exist today in manufacturing, being very similar to the situation I had encountered in the past. But, I should note, I believed that if there was a more participative management style in the organizations in the study, there might be a greater chance for women's inclusion in the power structure. The interviews with the men were included to verify the perception of men toward women in decision-making roles, to understand the predominant population, and to get a better feel for the culture of the organization.

I also assumed that my key informants at Alan and Baker Companies were forthright in their observations and statements and could be trusted to tell me if I had veered off course in my analysis of the data. I believe this trust was well placed.

CHAPTER 3:

CONTENT AND CHARACTERS

In the previous chapter, the rationale, justification, design, and mechanics of the study were covered. An overview of the companies, observations about their inherent organizational culture, descriptions of the interviewees, and descriptions of other key informants will be covered here.

Although the accuracy of observations is central to the qualitative method, I must protect the identities of the companies and the participants in this research study. For this reason, all the names, organizational identifiers, physical descriptions, and any other telltale evidence of the companies' or persons' identity have been modified in such a way as to give you, the reader, an understanding of the situation, while safeguarding the identities of the informants and their companies.

The Alan Company

The Alan Company is primarily a heavy equipment manufacturer with specialized production facilities sprinkled across the Midwest. Alan Company competes for product sales in many regions of the globe with over 15,000 employees world-wide. During the tough economic times of the 1980s, Alan was forced to reduce its workforce by nearly half through blue-collar layoffs and white-collar layoffs and terminations. The current workforce consists primarily of survivors of the 1980s corporate-wide downsizing, a handful of transfers from other overstaffed facilities, and a few new-hires added in areas that have had high numbers of retirements or departures of personnel such as in engineering, skilled trades, and high-technology production workers.

The Alan Company was started in the 1800s in a small workshop where the founder built machines one at a time. The growth of Alan over the past 100 years has been steady, building on a reputation for solid design, high quality, and reliable field service for its customers. Despite the tough times during World War II when most American manufacturers retooled to support the war effort, and the economic downturn in the 1980s in the heavy equipment market, the Alan Company's prospects for the future appear bright. Research and development continues to provide new innovations, while each product facility seeks to maximize workforce productivity through outsourcing, just-in-time inventory management, and cross-functional workplace teams.

The women and men from Alan Company that participated in this study came from three facilities in the corporation located in Lansing and Brookings with 700, 900, and 1500 employees respectively. These towns are two of eight mid-sized communities in the South River Valley that has a combined population of nearly 175,000 people. This Midwestern region has traditionally been able to attract and retain a wide variety of manufacturing and food processing plants and the overall standard of living is comfortably middle class.

At each Alan Company facility where the participants worked, the management style could be described as fundamentally "Alanesque", but each did have a slightly different feel. I believe this was a result of the specific product being produced, the age of the facility, the number of long-term employees, and the current manager's style.

The heavy equipment business is a rough place to work. The size of the engines, transmissions, castings, and the end products are large. This seems to lend a very masculine tone to external and internal dealings with employees of Alan. To paraphrase a Monty

Python sketch: "its a manly place, filled with manly men, doing manly things...". The production departments, especially in the foundries, are occupied by androgynous looking people wearing hard hats, safety glasses, metatarsal shoes, and generally dark clothing, thus it is hard to determine gender from a distance. Women and men in business suits were not commonly found on the production floor. A white shirt, a dark suit, or skirt seems to stand out against the backdrop of workers in tee shirts, jeans, or blue uniforms. Women, until a few years ago, are not commonly found in some areas of Alan's facilities. It is also not uncommon to see male workers spitting on the floor, swearing loudly at each other, or coming out of the restroom still zipping their flys. Any new woman who ventures onto the production floor, even visitors on plant tours, are subjected to stares (and sometimes catcalls) from the production workers.

The Alan Company facilities

Most of the production facilities have few exterior windows except for the office complexes located frequently at the main entrance to the building. Windows let in heat in the summer and cold in the winter; therefore, limiting the number of windows reduces energy costs. The production floor instead relies on large, overhead golden-yellow sodium vapor and blue-white halogen lighting that casts eerie shadows in the aisles and corners. Work areas where assembly, repair, or inspection occur have specialty task lighting.

Yellow flashing lights along gangways warn of moving conveyors or truck crossings. The sound of fork-truck horns, clattering overhead conveyors, humming hydraulic pumps, and the buzz of air hoists fill your ears. Its almost as if the buildings themselves are alive with the energy that keeps the lines running. The smell of hot machine oil, faintly mixed

with hydraulic fluid, cooking odors from the cafeteria, and cigarette smoke permeates the air. In the foundry, the reek of ammonia from coremaking, iron dust from chipping and grinding, and acrid fumes from the melting department assaults your nose, while a thin, gray haze of smoke and dust floats in the air, eventually covering everything. You have to be careful what you touch in the foundry or your hands will get dirty.

In stark contrast, the offices are like beacons in the fog, starkly lit with overhead fluorescent fixtures and filled with desks, partitions, men and women in office garb, working diligently at their stations. The sound of phones twittering, computer keyboards clicking, printers whirring, and paper rustling is punctuated by people talking on phones and to each other, interspersed with laughter. The low rumble of the factory is constantly in the background, rising to a crescendo when a door that connects to the production floor is opened. Production supervisors or wage workers stand out their dark, sometimes grimy, attire contrasted against the office personnel's clean, white shirts or gaily colored blouses.

The rank of an office worker is not hard to discern. Middle managers and upward wear blue, gray or black suits with ties and white shirts. Supervisors, buyers, engineers, and analysts wear light shirts, dark slacks and ties (if male), and usually have metatarsal shoes on if they have duties that take them to the shop. Women in higher level positions that don't take them to the shop floor wear more elaborate suits, dresses, and pumps, while lower level men and women wear casual shirts, slacks, or, frequently, jeans. There is no written dress code, so the employees dress as the culture dictates.

The personnel

In this company, manufacturing production works around the clock. In recent years, production has been limited to first and second shifts, and maintenance work occurs on third shift. This changes as product demand dictates. The average age of most employees is middle to late 40s. Many of the current employees were hired at least 20 years ago, thus they are, primarily, male. Alan Company had a hiring push for women after the federal EEOC initiatives of the 1970s, but most were among the thousands of production workers laid off in the 1980s and never called back.

A majority of the remaining women at Alan work in traditional office environments as clerks, expediters, or production analysts. There is a small contingent of women in engineering, production, and management roles who survived the staff reductions of the 1980s or have been hired in the past 15 years to fill some technical/professional roles.

Within this setting, the culture of Alan Company takes on the flavor of a tough, "hit-the-ground-running," command and control hierarchy. The executive board and all high-level management positions at Alan are white males with long service records. The CEO and most vice-presidents, however, rose to power from middle management ranks rather than from front line production or manufacturing operations. The founder's great-grandson also occupies a vice-presidency. These and other high ranking officers appear to preserve the all male hierarchy within Alan and the traditional culture of the organization.

The bargaining unit

There are several unions representing a variety of skilled trades, wage, and incentive employees at Alan Company. The largest International Union, with a local membership of

over 2000 employees, has had a checkered relationship with Alan. The last two union contracts have been ratified without much ado, many workers glad to accept modest wage increases in return for more lucrative retirement packages. As a result, there is some animosity toward corporate management from salaried employees who see wage workers receiving better health-care and retirement benefits. Each time the nonunionized, salaried employees are forced to accept reductions in their benefits or pay scales while the wage workers are protected by the Union, grumbling and threats to organize resurface. However, it is unlikely that the white-collar workforce will form a collective bargaining unit any time soon because forming a union would be difficult for the salaried employees. Past efforts to organize has been limited to informal discussions and quick resolution of the problem at the time.

Salaried personnel

Since there have been few new employees in the last fifteen years, most of the employees have worked with each other for over ten years and some for as long as thirty years, or more. Reputations often precede a person; therefore, gossip prior to and after a promotion is common, with details of early career moves and memorable events rehashed by peers and subordinates. However, there have been few promotional opportunities in the last decade due to the stagnant hiring policies. Many employees feel fortunate to still be employed with Alan Company after the downsizing and are looking forward to retirement in the next five to fifteen years.

Although the management style and the resultant organizational culture have their roots in the scientific management model, there have been some changes in the past five

years. A shrinking workforce coupled with a hiring freeze forced Alan to modify the levels where decision-making was being done. As a result, the numbers of middle-managers have been reduced through attrition and transfers. Supervisors and engineers have been given the authority to make more critical product decisions. Training the management hierarchy to become facilitators for their reports rather than "point and tell" managers has been a recent major thrust by human resources. There have also been hours of mandatory classes for all salaried (and some wage) employees on how to effectively work in teams. The teaming concept is something new for Alan Company. It has been somewhat successful for small projects, but major production decisions are still made by upper management.

Women are not found in any positions above middle manager. As I quickly discovered, there are **no** women in management positions that can directly affect long-term strategic decisions for Alan. There are a few women in production management positions, human resources, or information systems with one or two levels of employees below them. Otherwise, the salaried women at Alan are primarily entry-level technical/professionals, analysts, lab assistants, programmers, clerks, or support personnel. The positions of secretary and receptionist have been virtually eliminated by computer and communications technology of the past decade. Many of these women were integrated into assistant and clerk positions throughout the facilities. Bargaining unit or "wage" women are usually employed as janitors, fork truck drivers, assemblers, and a few as machine operators.

The data source: Informants at Alan Company

Collecting the data at the Alan Company was facilitated by my previous employment which ended nearly a decade ago. I had maintained relationships with a few peers and did

not leave Alan on bad terms. All the informants were rather pleased that someone was interested in what they thought about their work and their perceptions about success. The following descriptions of six women and five men at Alan were developed from my fieldnotes, a short demographic survey they were asked to complete, and open-ended questions from the interviews. As noted in Chapter 2, the selection of the informants was purposeful, seeking women and men in lower levels of the organization, while simultaneously assuring that they met certain criteria regarding occupational role, length of service, and willingness to participate in the study.

Martha

Martha, a production manager at the assembly plant, is 45 years old and married to a skilled trades electrician at Alan Company. They have no children. She has been employed for over 20 years in manufacturing with this company and originally pursued a job at Alan because one of the branch facilities was close to her hometown and was the best paying employer in the area.

Martha was initially hired as a clerk filing blue prints. She became involved in the computerization of the production materials system and soon started to move up in the company. She had a mentor, a man in upper management who was a family friend. He and his colleagues facilitated many opportunities she was given and were a source of guidance in the early stages of her advancement in the organization.

Martha has reached the highest level that women have attained at this facility. As a middle manager, she realizes that a promotion beyond this level is not probable. She has a small network of four or five female peers in middle management who try to support each

other on workplace issues, act as sounding boards, and serve as information sources. Martha has an MBA that she completed as a nontraditional student while working full time at Alan.

Martha is rather tall and of medium build, but moves with a quick grace that reveals some of the energy she relies on to work the long hours her job requires. Her brown eyes and soft laugh belie the intelligence and astute perceptions she keeps in reserve until she has had time to measure the motives of those with whom she is working. This reserve seems to be a self-protective system she has developed as a result of the many challenges and barriers she has encountered over the years in the climb to her current position.

Sally

Sally, a foundry production supervisor, is 47 years old, married to a business consultant with two grown children from his previous marriage. Sally has been employed for 24 years in manufacturing, all of them with Alan Company. She entered manufacturing as a clerk in Industrial Engineering (IE) even though she had a bachelor's degree in business.

Sally moved from IE to a variety of assignments in the central office complex over the next two years. She was working in the personnel department when she was selected to be part of a corporate program to groom high potential women and minority candidates for promotion. Within six years, she was promoted to general supervisor in production.

In the downsizing era of the 1980s, Sally was demoted and sent to the foundry as a supervisor in Industrial Engineering. She reports that this demotion was due more to a lack of seniority rather than poor performance. After a short time in the foundry, Sally requested

and was given a more challenging assignment as a production supervisor. She has been working in this capacity for the past three years.

Sally perceives that her demotion and subsequent transfer to the foundry, a very tough environment for women, was the end of her chances for promotion. She is isolated in the foundry, being the only woman in production supervision and is the target of constant harassment by peers and subordinates. She tries to protect herself by building friendships with only a couple of trusted peers and avoiding gossip sessions with the women clerical employees. Because of this, she is sometimes viewed as aloof and snobbish by the other women. She looks forward to retirement in another six years.

Phyllis

Phyllis, a lab chemist, is in her early 50s, is married to a school principal, and they have three grown children. She has been employed at Alan for 17 years as a lab chemist in the same department and in the same position. She sought a job at Alan Company because it was in her hometown region and had good pay and benefits. Phyllis had a bachelor of science degree in chemistry and had worked as a laboratory chemist with another employer, but jumped at the opportunity to work at Alan.

Her first department manager was very supportive and encouraged her to take on more challenges and responsibilities in the lab. Unfortunately, he retired only a year after she started at Alan. Phyllis has built a reputation for being reliable and accurate in her work for the production operations in her area. She has been able to expand her work space from a small section of countertop when she started, to a 25 by 25 foot room in the materials laboratory today.

Despite her technical capabilities, her manager of the last seven years has been a source of frustration for Phyllis and many of the female engineers in the department. She reports that he has been less than subtle about his belief that women don't belong in a factory, and continually rejects her requests for equipment and clerical support while she notes that he liberally appropriates resources to her male peers. Phyllis has trained new male technicians, only to have them promoted above her by this manager. She continues to push for new equipment and clerical support, but assumes that the situation will not change until her manager is transferred or retires.

To take her mind off the frustrations of the workplace, she has trained as a gourmet French chef. Her pastries and appetizers are often requested for departmental sharing during the holidays and for retirements. She shares these treats with peers by inviting individuals back to her lab area. This way, she doesn't have to share with the manager.

Vera

Vera, a lab supervisor, is in her late 40s, divorced, with one grown child. Vera started her career in a refinery research lab in Texas. She left that position to follow her husband as he pursued graduate school. Since she was in a university town, Vera took advantage of the opportunity to get her master's degree in biochemistry, working as a graduate assistant under a prestigious research chemist. When her husband accepted a position in her present community, she applied for a position at Alan 15 years ago as a paint technician.

Although she had a graduate degree, Vera was hired at lower pay and a lower labor grade than the men who were hired at same time with only bachelor's degrees. She admits

she was naive about negotiating salary and benefits, but believed what the Human Resources person told her at the time. She still distrusts management somewhat because of this betrayal of her faith in the system.

Vera was promoted to lab supervisor after she resolved a long running conflict between two other women in the lab. Since then, she has tightened the standards in her lab and, as a result, received recognition for her work by the ISO-9000 quality registrar. This is tantamount to being given a "medal of honor" for manufacturing laboratory quality.

Vera admits that she is rather isolated in her job and her manager often must explain to other managers who she is when her name comes up in performance reviews. Her strong work ethic, coupled with a self-depreciating interpersonal style, has sometimes worked to her disadvantage. She sees her peers as deserving promotion, but not necessarily herself.

Vera has considered applying for a position with the research and development division that would require a lot of travel. She states she probably wouldn't be considered for the opportunity because she thinks Alan Company is not ready for a woman representative meeting their customers in America and Europe.

Denise

Denise, a purchasing buyer, is 44 years old, divorced and remarried, with two teenage children at home. Denise has been employed with Alan for 19 years, starting as a secretary. Unfulfilled by her job, she wanted to be involved in manufacturing operations, but found it difficult to convince her supervisor to give her more challenging assignments.

She finally transferred to research and development where her new supervisor gave her an opportunity to work with a group technology program. Later, she did some

programming for the stockroom system and, eventually, was promoted to a position as a buyer in purchasing. During the course of this time, she continued to go to night school to finish her bachelor's degree in management.

Denise is a very tall woman (6 feet) and has striking good looks which tend to obscure her very direct interpersonal style. She has met and often exceeded the goals set for her area of responsibility, a difficult task for any buyer. Her accurate assessment of an ongoing problem in her area landed her the position as facilitator between production, maintenance, and purchasing; resulting in reducing maintenance supply inventory for several Alan plants. She tries to challenge management's widely-held belief that women in purchasing have little technical background. She acknowledges that her chances for a higher position are slim without an MBA and support from upper management.

Denise has a small decorating business that she and a female partner have nurtured over the past five years. It serves as an outlet for her creative talents, an incentive to travel to shows, and keeps her in touch with the cosmopolitan contingent of the local community.

Cindy

Cindy, an engineering clerk, is 46 years old, divorced and remarried, and has three children; two grown, one still in grade school. She has worked in manufacturing for 23 years, starting in the stenographers pool. She has never been promoted during her tenure at Alan, but has been given more responsibility and authority. This has meant that her role as department secretary has evolved to a different level over the past 10 years.

Her current responsibilities include acting as liaison to the production, engineering, and computer systems departments to keep the communication system functioning. She also

maintains much of the paperwork for one of the Alan Company facilities for uplinks for satellite transmissions, mobile phone networks, and marketing video development.

Cindy is a very upbeat person who really knows how to make you feel like she cares about your problems. She has a good sense of humor, but can get her feathers ruffled if she thinks you are mistreating someone she cares about. This maternal nature is appreciated by her co-workers, but may have made it difficult for upper management to take her seriously. She has a high school education, is an avid quilter, and bowls two nights a week.

Dan

Dan, an engineering manager, is in his mid-fifties, married, with three grown children and a handful of grandchildren. Dan has worked in manufacturing since graduating from college. He has been with Alan for 22 years starting as an engineer in R & D. He has had increasing responsibilities and promotions, but noted that he had no mentor or coach to open doors for him at any time in his career.

His current assignment as middle manager is to oversee quality initiatives at the largest Alan facility in the region. Dan has engineers and skilled technicians for subordinates and speaks very highly of the facilitator/counselor role he has been put into, seemingly as a result of the extensive training for management espoused by Alan Company. Despite this training, he has a very structured system for evaluating his subordinates and expects each person to meet the goals that were jointly set at the beginning of the fiscal year.

Dan admits to some frustration with the new management and the logic behind some decisions, but continues to strive to meet their goals and expectations. He sees his role as making the boss look good, thus assuring his future aspirations for promotion. He hopes to

be promoted to corporate headquarters and feels he may have an opportunity in the near future.

Dan made some very strong points about the need for women to consider engineering as a career at the start of our conversation. He stated that he has worked through his professional society to encourage women to consider manufacturing career opportunities.

Dan's height and size is somewhat intimidating when you first meet him, and he tends to stare unblinkingly at you with piercing blue eyes. I sensed that he was somewhat feared by his subordinates. During the interview, he made it clear he expects people to listen to his ideas without interruption or pause.

Frank

Frank, a process engineer, is 42 years old, married and the father of two young children. He has worked in manufacturing since graduating from college with a degree in mechanical engineering. He was employed at a competitor of Alan Company, but joined Alan 18 years ago when he was offered an opportunity to get out of design engineering. He started as a quality engineer and is still working under the same job title, but emphasized that the job is nothing like when he started. His first job at Alan was in layout inspection and he has worked on a variety of quality initiatives since that time. Frank stated that he had peers and supervisors who assisted him with technical and informational needs, but has had little support for any promotion. He says that he is quite content with his current position.

Frank works for Dan and is very conscious of this difference in rank. Frank has four technicians and engineers under him who work with production departments to solve quality

problems. He manages by consensus and tries to encourage the mature workforce at Alan Company to solve many of their own problems with his technical guidance.

Frank is the quintessential engineer: thick glasses, gangly, somewhat shy, speaks in a staccato fashion. He is a very conscientious worker and has a very strong religious faith. He has no desire to be promoted beyond his current area of responsibilities, but he takes great pride in the changes he has instituted in his area. His contributions to Alan have had a positive impact on the continuing quality of the product.

Gene

Gene, an inspection supervisor, is 53 years old, married with two grown children. Gene has been at Alan for 33 years. He is a local resident who was working at a gas station and had just started college with aspirations of being an English teacher. His father, an employee at Alan, convinced him that he would be better off working in manufacturing. After he was hired, Gene worked in a variety of blue-collar positions for over 20 years, mostly in product inspection and verification.

He had two mentors, one who tried to give him opportunities and the other who taught him how to research a problem to find the solution. Gene became interested in programmable calculators when they first came out in the 1970s and built a reputation for himself in statistical analysis within the methods engineering department. Gene was instrumental in cutting setup time for a metrology check of castings and was offered and accepted a promotion to a white-collar position five years ago. He brought his respect for the blue-collar worker to the position and treats his subordinates with deference and collegiality.

Gene is a very soft-spoken man who encourages his subordinates to aspire to higher goals. He is 15 hours short of a bachelors degree and feels its not worth the effort at this point in his career. Gene has an open attitude toward women in the workplace and feels that they are often discriminated against despite their efforts. He has great respect for his wife and his mother who both have given him solid advice on the human elements of his job.

Bill

Bill, a marketing manager, is 48 years old, married with grown children. Bill has worked in manufacturing for 27 years and has been at Alan Company for over two decades. He started grinding slag in a welding shop while going to junior college. After being promoted to purchasing and then supervision, he was offered better pay and, consequently, left for a position with Alan Company.

At Alan, Bill worked as a production supervisor until a more desirable position in marketing was offered to him, while he was still working to finish his bachelors degree. The efforts of his immediate supervisor were central to getting the offer. He was later promoted to marketing manager, in part, due to his supervisor. He has been able to facilitate the promotion of one subordinate to a white-collar position and sees the potential that a female subordinate currently has for recognition and advancement.

Bill believes that if he had finished his degree a little faster, he would have been higher in the organization by now. He realizes that the next promotion will involve a move to corporate headquarters and looks forward to the opportunity. He believes that the downsizing has been good for women because the hiring freeze at Alan has forced management to fill positions with people who normally wouldn't be offered those positions.

Roy

Roy, a manufacturing manager, is in his mid-fifties, married with grown children and two grandchildren. Roy has worked for Alan Company for 30 years. When he graduated from high school, he entered the local university, majoring in mathematics. Financial obligations forced him to quit school and apply for a job at Alan. He started out as an NC machine operator, which was a new technology at the time. His math background facilitated calculating the complex geometry for machining parts (this was all before calculators).

Roy was promoted to a salaried position from the wage ranks in part because of a family friend who took an interest in him and knew his capabilities. After his initial promotion, he worked in manufacturing engineering and processing until the downturn in the 1980s. During this time, he was responsible for reorganizing several departments and was able to do it without having to lay off employees. From this effort, Roy was rewarded with a promotion to middle manager.

He currently has fifteen white-collar subordinates in production design. He believes that the best supervisor builds confidence in his employees and helps them as he can. He tries to be politically correct in his statements, but retains some rather traditional views toward women as revealed during the interview.

Roy has only nine hours remaining to finish his bachelors degree and plans to try to complete it before he retires in the next few years. He is an avid volleyball player, competing nearly year round. He is also a computer enthusiast, building his own Web page for fellow volleyball players. He has no aspirations for promotion at this time, stating that the lack of a

degree has been a barrier for him in the past and will continue to be since Alan has a strict policy regarding promotions for nondegreed personnel.

Other informants

To check the accuracy of my analysis and to answer questions that the interviews didn't adequately clarify, I sought additional information from former male and female peers at Alan Company. These people were primarily trusted friends, some I had known for nearly 20 years. I explained that I needed straight answers for my research, and asked that they tell me what they truly thought, rather than what they thought I wanted to hear. I believe that they didn't let me down.

Al, a maintenance supervisor, had worked at Alan for thirty years. I appreciated his ability to see the sides of a situation that I hadn't considered. He has two teenage daughters who are well on their way to nontraditional careers. For this reason, Al has an open view regarding women in the workplace. He also has some very traditional views about the work ethic and making your way up the management ladder. Al was my key male informant at Alan Company. His observations regarding the male point of view were invaluable.

Other informants I utilized were male and female. I would frequently call them with a single question or bounce an idea off them for a response. I called each in relation to the situation or idea that I felt they could most appropriately answer. Sometimes I would call two or more informants to test for consistency between their responses and the data from the interviews.

Summary of the Alan Company

In summary, the Alan Company has come out of the tumultuous years of downsizing, reorganizations, and redirection of key resources emerging as one of the leading manufacturers of heavy equipment. The company has maintained its "no-nonsense" image by continuing to pour money into research and development, becoming more agile in design to production lead time, and being willing to reduce the numbers of employees when necessary. As a result, the management structure has become somewhat flattened, the average age of the employees has risen, but opportunities for advancement are limited.

Within this environment, the management has tried to keep the employees' focus on quality products rather than the concerns regarding outsourcing and limited chances for promotions. The white-collar men and women at Alan Company are dedicated to their jobs, try to get along with each other, but are rather myopic about their situation. That is, they earn *very* competitive wages and benefits, have some autonomy in the decisions they make, and now have solid job security, yet they often grouse about the loss of taken-for-granted perks, some perceived differences in pay between peers, and the lack of opportunities. In general, however, they enjoy their work and look forward to what the future may bring.

The Baker Company

The Baker Company builds machine tools for other manufacturers in the textile industry. As part of a huge multinational conglomerate, Baker Company employs 4000 people at three facilities in the Midwest. At the time of the study, Baker was being offered for sale as part of a restructuring effort and had several serious bidders in the wings. Baker

had experienced cuts in its workforce in the 1980s due to offshore competition in the textile industry and direct competition from Asian textile machine tool manufacturers.

Baker was acquired by the multinational conglomerate in the late 1960s when growth in the textile industry was fairly stable and diversification was popular with many corporations. The Baker name was retained after the acquisition because of Baker's solid reputation in the textile industry for quality and innovation which had been built over the course of a century from its founding. The parent corporation continued to pour money into Baker for research and design support even when the American textile market took a downturn in the 1970s. There seemed to be an optimism at Baker regarding the potential sale, as if they were going to be freed from a quarter century of bondage.

The current workforce at the Rock River plant where I collected my data has a core of blue-collar production workers with over 15 years seniority who were able to retain their jobs, a white-collar salaried group who have been with Baker for 15 to 30 years, and a group of young salaried employees who came with the new manager seven years ago from headquarters in St. Louis. These new engineers and managers have been absorbed by the existing culture, in most cases, but some animosity about preferential treatment for personnel from headquarters is an undercurrent in daily operations.

The Baker Company facilities

The main manufacturing facility, located on the outskirts of Rock River on a thirty acre fenced and gated compound, is fairly new. Built in 1981, it spreads out to cover three square acres on one level. There are no windows, like the Alan Company, but the interior lighting is all blue-white halogen, reducing some of the eerie shadows that occur when

sodium vapor lighting is used. The production floor is clean, with white painted lines to mark aisles for fork trucks and pedestrians. There is some background noise from machinery, hydraulic pumps, and passing sweepers, but nothing like the cacophony at Alan. The quiet atmosphere of the production floor seemed almost surreal, as if they were trying to hide the fact that they manufactured any product at all.

The reason may be that the production of each machine tool at Baker Company is a discrete process. Like building an aircraft, the huge form of an automated loom is built from start to finish on one spot on the production floor. Stacked bins in a high-rise storage area cover one end of the facility where an automated picker moves slowly up and down the rows, searching for the proper basket with the stored parts required for the next operation. Workers, in small cubicles along the perimeter of the production floor, assemble components that will be integrated onto the assembled hulk of a new machine tool. The solemnity of the plant is a stark contrast to the assault on your senses that occurs at Alan. Baker Company's Rock River plant is pristine compared to Alan's foundries.

The offices are fairly quiet, brightly lit, and seemingly isolated from what occurs beyond their walls. Located on the second floor with a bank of windows overlooking the production floor, beige partitions that separate individuals appear, at first glance, like a maze. In each cubicle, salaried employees have decorated their space with posters, plants, and bric-a-brac. Stacks of papers, catalogs, prints, and small components litter many cubicles, but the aisles are kept clear for clerks, engineers, and supervisors to briskly walk through on their way to the coffee machine or other destinations. The meeting rooms are

often lined with a clutter of prints, parts and left over planning sheets. The offices seemed a messy contrast to the orderly production floor.

The unwritten dress code was similar to the Alan Company, with upper level women in dresses, men in white shirts and ties, and clerical staff in knit pants and (sometimes) tee shirts. I was surprised to meet the plant manager wearing a short sleeve shirt, tie and Dockers. A visiting contingent from headquarters were dressed in suits, but with open shirts and no ties.

This may have been due in part to the time of year I was at the facility. Summer is traditionally a more relaxed time in manufacturing, where ties are usually optional, attire is relative to the outside temperature, and many employees are off on vacation.

Production workers were sometimes seen in the office complex. However, they did not stand out like they did at Alan Company because they were not grimy or dirty. They seemed to quietly go to the cubicle where their business was taking place and then return to the floor. Greetings were usually exchanged as they passed, but the overall noise level was still very low.

The personnel

The Rock River facility employs less than 1000 people. The management style at Baker could be described as "hand's off" bureaucratic, where the plant manager tends to make big production decisions with the approval of division headquarters in St. Louis. More than one informant mentioned the heavy traffic between this facility and headquarters for meetings and planning sessions.

The employees at Baker Company acknowledge that they are at the mercy of decisions made at headquarters, but there appears to be more independence at Rock River in terms of opportunities for women. Headquarters is primarily staffed with white male engineers, marketing and sales persons, and management. Women do not occupy any positions in upper management or sales, but have made a few inroads into entry-level engineering in the past 10 years.

Women at the Rock River manufacturing facility are employed in mostly traditional female white-collar roles such as clerk, analyst, secretary, or accountant. Women comprise only 11 percent of the total plant population, with over half those numbers in blue-collar roles in production. Less than ten women in the salaried workforce of over 100 persons were found to be employed in nontraditional positions. Women from the clerical or secretarial ranks at Baker were sometimes promoted to purchasing analyst or buyer positions, thus opening an internal pathway for limited promotion for women in traditional roles. These internal promotions were proudly viewed as giving women a chance at traditionally male roles, even though the purchasing positions seldom required physical contact with production operations.

On the production floor, there were only a handful of women who worked alongside the men. The large size of the components being assembled on the machine tools, coupled with the requirement that a male supervisor (there are no female supervisors) qualifies a person for each position after a six month probation period, have limited the number of women in blue-collar roles. Women who did try to compete for the more desirable final assembly positions often were disqualified because of the physical demands of these jobs.

Some women did qualify by making tradeoffs with their male co-workers by doing assembly tasks that required a small hand or fine motor skills in exchange for heavy lifting.

The workforce cutbacks of the earlier decade had also eliminated many of the less senior women hired in the 1980s during the last major workforce expansion. The remaining wage employees had at least 15 years seniority. There had been layoffs at this facility as recently as the past six months due to reduced product demand. There was some consternation that the sale of the company might also have an impact on total workforce numbers.

The bargaining unit

Most wage employees are members of the Amalgamated Workers union, the only bargaining unit at Baker Company. The union had been able to negotiate some fair wage increases at Baker without a lengthy strike, but the downsizing tended to make the union push for seniority protection issues rather than bargaining for better retirements. The possible sale of Baker had many wondering what new concessions the employees would be expected to make, if they still had jobs after it was all over.

A long standing tradition on the production floor of working large amounts of overtime to ship a machine tool out on schedule had made many workers dependent on artificially inflated paychecks. It seemed that plant management had little ability to stop this practice, or were not aware that production was deliberately slowing down to make sure they got overtime at the end of the month. This disregard for the impact on the company's financial bottom line seemed to support the observation that this plant had its own ways of exhibiting independence from headquarters. If they could get away with excessive overtime,

the production staff seemed to feel that they still had some degree of autonomy in their world.

Salaried personnel

The white-collar employees at Baker Company appear to spend much of their time in the office complex. There was a lot of coming and going within the offices, but I seldom saw employees going out to the production floor. In the Human Resources department located near the visitors lobby, the only man I saw was the manager, sitting in his glass windowed office near the entrance to the department. The remaining women worked in partitioned cubicles lining the walls of the department.

Upstairs, most of the men and a few women were found to be working in their cubicles, only looking at me if I passed them in the hallway. The noise level was relatively low, with few phones ringing, people talking, or even the staccato of printers in the background.

There have been a few new white-collar employees over the past 10 years and the attrition rate is relatively low. Some speak wistfully of the time before Baker was bought by the conglomerate as if the bad years of the 1980s were somehow brought on by this change. The plant manager seems to have placed many of his cronies from his association with corporate headquarters in powerful positions at the Rock River facility. This has caused some grumbling by the resident staff who see their opportunities limited by this favoritism.

The data source: Informants at Baker Company

I selected Baker Company because of its size and its similarity to Alan in terms of product. Many production operations were homogeneous between the two companies and

the end products were durable goods. Both had suffered workforce cutbacks in the 1980s and, due to few new employees in the past ten years, the average age of the workforce at the facilities where I collected data were similar.

I gained access through a former student who currently worked at Baker Company. He gave me the names of some women in nontraditional roles (after I had listed a few job titles as examples), and the name of a person to contact in Human Resources for access permission. I was "on my own" from that point forward. All the interviewees at Baker were women, but as I will detail later, I did have the opportunity to get one male's point of view. The following descriptions are from my fieldnotes, a brief demographic survey, and the open-ended questions in the lengthy interviews.

Jayne

Jayne, a production assembler, is 49 years old, married with two grown children. Jayne has worked in manufacturing for 30 years in a variety of blue-collar production jobs with several companies in the region. She has been with Baker for the past 16 years in assembly. She was hired because Baker needed women to meet federal EEOC guidelines from the 1970s because the parent conglomerate sold products to the government. She was selected because she was persistent in applying for a position. Jayne could also read blueprints, something none of the other female applicants at that time could do.

The shop environment where Jayne works is filled with many traditional thinking males who have had limited exposure to women in nontraditional roles. To compensate for the hostility she experienced at first, she adopted a "stand-offish" interpersonal style that has caused her some grief. It has taken more than 10 years for the men to acknowledge her as a

good worker because she refused to play the "helpless female" role that many other women have used to survive. She is often judgmental of her peers with regard to foul language, work ethics, and lifestyle choices. She prefers to work hard, do an efficient job, and not get involved with her peers.

Jayne works on second shift by choice to avoid the raucous crowd her husband has over to the house on a regular basis in the evenings. She worked on third shift while her children were small in order to be available for their school programs and sports events. She just finished her bachelor's degree after attending night school for ten years and has aspirations for starting her own computer consulting business. Jayne would like to be promoted to a white-collar position at Baker, but she admits the tenuous situation makes promotions difficult to predict.

Matty

Matty, a scheduler supervisor, is in her early 40s, married with two school age children. Matty has worked at Baker for 18 years, starting after college graduation as an accountant. She was promoted to accounting supervisor after working her way through all the positions in the finance department. Her manager in accounting acted as a quasi-mentor, giving her assignments with better visibility but seldom offering any personal advice.

Matty got involved in a major project to upgrade the corporate production software system that was developed at the Rock River plant. She was appointed group leader of the project. Under her guidance, the results were outstanding, with kudos coming from headquarters. After the project was completed, she had worked herself out of a job. She was rewarded with the position of lead scheduler, responsible for the entire Rock River

plant's production schedule. She has been supportive of her subordinates (male and female) in their promotion efforts, but acknowledges that she doesn't have the technical background her peers have when it comes to her responsibilities.

Matty's income is the only source of support for her family right now. Her husband attempted to start his own business but it recently failed. She is rather cautious about taking risks since she is the main breadwinner. Her spouse does help with childcare needs, freeing her to work long hours if necessary.

Matty was the only female participant in the study who wore a dress and pumps at the interview. This indicated to me that she spent little, if any, time on the production floor. She was reserved in her responses, taking time to think about her words, but warming up after we had got into topics that were less personal.

Alice

Alice, a human resources advisor, is 58 years old, divorced and remarried, with three grown children and several grandchildren. Alice was a homemaker for many years, but was forced to go to work after her divorce. She worked as a temporary for several years, but needed better benefits to support the needs of her young children. She has been working at Baker Company for 16 years in human resources.

Alice started as a secretary to the human relations manager. She acknowledges that her high school education has been a limiting factor in the type of work she could pursue. She currently functions as officer manager, benefits advisor, and assistant to the human relations manager, but still in the same department

Alice is a diminutive person with a very outgoing personality. Her gray hair and sparkling blue eyes make her very nonthreatening to most people. She worries about the well-being of the Baker employees and the impending sale, but takes the company line when issues of compensation and benefits are discussed.

Alice is a very cheery, motherly type of woman who likes to give credit to others when it is due, but also feels the need to check the details if her name is going on a report. She functioned as gatekeeper for my access to the other interviewees at this company.

Lena

Lena, a design engineer, is 32 years old, married and expecting her first child at the time of the interview. Lena has worked for 10 years in manufacturing with Baker Company since graduating from college with a degree in mechanical engineering. She has been interested in engineering since childhood and carefully selected the institution for her degree to be sure it was in the top 10 engineering schools in the U.S. She started at Baker Company headquarters and transferred as a design engineer to the Rock River facility four years ago. Part of the reason she moved was because of the subtle discrimination she experienced at the St. Louis headquarters. She saw the move as an opportunity to get better assignments and out of the stifling atmosphere at corporate. She was the only woman in the study who had relocated to take a position with either company.

Lena single-handedly developed a new design for a major machine tool component that is now used throughout the company. She has had the benefit of the Rock River plant manager's mentoring and support, but continues to believe that her hard work and careful

designs are more important. At the time of the interview, she had just been promoted to supervisor of engineering, a first for any woman at Baker Company.

Lena, a slender, blue-eyed blond, was expecting her first child in three months at the time of the interview. She didn't see the baby as being a hindrance to her ability to work. She is a very focused individual, setting her goals for the future very carefully and working hard to meet her commitments. She has experienced some discrimination, but has worked hard to dispel the preconceptions her peers have about women in engineering. She would like to study to be a physician, given the opportunity.

Other informants

In addition to the interview participants, I serendipitously met the plant manager, Rob, at a University function. Taking the opportunity to get a broader perspective on the Baker Company, I visited with Rob for about 20 minutes. He gave me some insight into the thinking at Baker regarding women in manufacturing as well as some additional information regarding a couple of the women I had interviewed.

Rob was also honest enough to let me know that he was leaving Baker in a month for a new position with another manufacturer in Rock River. It seemed that he was well liked at the Baker facility, but he felt that opportunities were greater elsewhere. The possible sale of Baker also was on his mind.

Summary of the Baker Company

The Baker Company has also experienced the uncertainty and upheaval that the era of the 1980s brought to manufacturing. The company has tried to keep pace with new technology, integrating just-in-time production scheduling, computer-integrated resource

planning, and downsizing. With all the turmoil of the past decade, the company seems to be holding its breath in anticipation of the changes that new ownership may bring.

The white-collar workforce is very conscientious about their areas of responsibility, but seem to have compartmentalized the fact that production occurs at the facility. In all my conversations with the informants, they seldom discussed current projects, production issues, or concerns about customer needs or requests. The production floor seemed to be a background activity, in contrast to the lively exchange that occurs at Alan Company.

Summary of the Chapter

This chapter has been an account of the companies, their facilities, an overview of the personnel, and a detailed description of the participants in the study. The Alan Company, a heavy equipment manufacturer, has come out of the economic downturn of the 1980s leaner in terms of employees, but still maintaining its unique masculine influence. Some recent changes in management style have brought in participative management in the form of interdepartmental teams, but the predominantly white, male hierarchy maintains control of major decisions regarding the company.

The Baker Company, a machine tool manufacturer, was absorbed by a huge conglomerate in the late 1960s. During the 1980s, Baker also experienced layoffs and cutbacks, but has emerged strong enough to be put on the sale block by its parent corporation. Company headquarters still maintains control over major decisions, but the Rock River plant has some autonomy. The numbers of women employees in any capacity at Baker seemed unusually small, and few were seen during my visits to the Baker facility.

All the participants have rather lengthy tenure at their respective companies. Their motives for seeking out their current employer were consistent with desiring good pay and benefits, working for a large employer, and/or saw a better opportunity at this employer. All the participants were white Midwesterners with apparently strong work ethics. Most had family ties to the geographic area where they worked. Only one of the women respondents had relocated to take a position with the company, while this was the case for three of the male respondents. The remainder of the participants had pursued employment at their respective companies because they were a local employer.

Chapter 4 will reveal the results of the synthesis of the data. The factors of success as described by the informants, the barriers to success that the informants have experienced, and impact of the organizational culture on the perceptions of the informants are covered.

CHAPTER 4:

SYNTHESIS

In Chapter 3, an overview of the Alan Company, the Baker Company, and a description of the informants at each plant was provided. Descriptions of the Alan and Baker Companies respective organizational culture and the description of each company's facilities were presented to provide a backdrop for the informants' perceptions related in the interviews and subsequent data.

In this chapter the themes that emerged from the data will be revealed and their interrelationships explored. The themes of success that the women in nontraditional roles related were: competence, satisfaction, mentoring and peer support, and interpersonal style. Conversely, there were issues that the women identified as barriers to achieving success. They were: the glass ceiling, gender issues, and the corporate organizational culture.

The Process

After thinking, collecting, transcribing, thinking, sorting, rereading, thinking, asking additional questions, and thinking some more, I continue to unearth questions about somewhat related (and not-so-related) topics. These new questions, however, must be set aside for the next study. The purpose here was to identify the factors that influenced women's perceptions of success within the context of the manufacturing environment. The time has come to allow you, the reader, a drought of the elixir I have so carefully fermented for the past two years.

I use the analogy of a tonic created from a variety of ingredients and reduced to a flavorful result because it is a sensual way to describe the qualitative method and may give

you another way to think about how these results were derived. Collecting the raw data, we (qualitative methodologists) sort it, reassemble it, see a pattern, add a few more critical pieces of data, sort it some more, ask more questions, add more data, identify patterns, condense them to themes, verify the themes, and bring the resultant flagon of knowledge to the table to share with others. This process takes as long as it takes. For me, some themes began to emerge fairly early in the process, but I continued to verify my results until I felt confident that I was being true to the data. Therefore, the process of synthesizing the data to a core of themes was ongoing, but eventually yielded the understanding I originally hoped to find. Let's get started.

Success for Women in Nontraditional Roles

Success, the elusive target that is a goal for so many people in their professional and personal lives is just that, elusive. For the group under study, success wore situational faces, changed with new roles and responsibilities, or was found at the end of an arduous process to meet internal and external expectations. The road to success for the women in nontraditional roles was marked by four major indicators: competence, satisfaction, mentoring and peer support, and interpersonal style. Utilizing all or most of these components in their workplace interactions was identified by the subjects as necessary to achieve successful results. But using these elements to achieve success was not limited strictly to the women. As you will see, the men also incorporated some of these strategies to achieve success.

The following section will address each of these issues with an emphasis on the women of the study, both in traditional and nontraditional roles. As a contrast, and to

improve understanding, I will integrate themes that emerged from the synthesis of the data with regard to success for the men. The commonalties and differences between the groups will be discussed in Chapter 5.

Competence

The concept of competence was important to the women participants, particularly to the women in nontraditional roles. Being perceived as an effective cog in the mechanisms that made the organization function properly was high on the list of factors that melded into successful outcomes. Sally, the foundry production supervisor, spoke of personal traits that helped her succeed, "It's important to me to feel that I'm making a contribution to the organization. I think that some of the skills that I have, in order to get groups of people to work, it's helpful there."

For the women, being educationally prepared and technically able to perform their duties was central to their perceptions of success. Being perceived as competent by their peers or by internal standards gave the women inner strength and confidence. For Martha, the production manager, getting her MBA through a Saturday program for young executives gave her the educational credentials to be taken seriously. Lena, the design engineer, noted "I feel self-confident because I have all the background in applications engineering to do what they want here." She stressed the importance of careful groundwork and conscientious effort as being central to her ability to produce designs that were well received by the customers.

Matty, the scheduler supervisor, worked very hard to prepare a presentation for a team from headquarters at Baker. After rehearsing till she was "able to speak without

thinking" she flawlessly delivered the information in a meeting. The managers from headquarters were very impressed with her competence on the subject and gave her many positive comments. Afterwards, she was motivated to expand her input into other technical decisions at Baker.

Most of the women in nontraditional roles in the study had better educational credentials than many of their male peers. Pursuing formal education is often a way in which women in nontraditional roles try to compensate for perceived deficiencies in on-the-job experience (England, 1992). For men in manufacturing, there is often an underlying assumption that they are competent just by being employed in the field because they are in men's jobs (Sigel, 1996). Sigel goes on to note that women in men's jobs often compensate for this lack of experience (whether real or imagined) by pursuing degrees to ensure that their educational attainment is documented.

All the women in nontraditional roles in the study had strong formal educational credentials, but most entered their current positions with work experience built on traditional career tracks for women. Competence in terms of job knowledge and in technical capacities was viewed as central to being effective in their jobs. Denise acknowledged that her sex[2] was a defining characteristic used to prejudge her abilities:

> They put women buyers in positions that are not technical, because they think we don't understand manufacturing and all that, which we do.... I was buying machines. So you have to prove yourself a million times over with the engineers and supervisors...to prove you do know a lot about machining and machine tools.

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[2] On the differentiation between *sex* and *gender*, I will follow suit with the literature by referring to *sex* in the context of biological classification, while *gender* connotes sociological differences between men and women (See Dion 1985; Foschi, 1991; Sigel 1996).

For Jayne, after being selected over other women for a much sought after job in assembly, competence took the form of being able to outperform the men she worked alongside. She had worked with these men for over 15 years, and they finally admitted that she was competent enough to hold her own in assembly. She finished her undergraduate degree in the past year and looked hopefully forward to being considered for supervision.

Doing the job well, believing one's abilities outstrip one's peers, being conscientious, or making an impact on your own circumstances for a positive result are ways the women described the competence component of success. It is common for women to first gain technical competence before they experience confidence (Bancroft, 1995). The women in nontraditional roles in this study not only were compelled to make up any deficiencies in formal education they had, but they also spent time trying to compensate for perceived shortages in specific technical knowledge. Jayne went to blueprint reading classes on her own time; Martha took advantage of in-house seminars on current technology; and Denise not only attended seminars, but also became active in a relevant technical professional society.

For other women, making proactive changes in their work environment was a way to exhibit competence and control. Phyllis expanded her power base by not only showing she had a solid understanding of the strategic need for failure analysis in her area of responsibilities, but by efficiently reorganizing the change process:

> How this lab has evolved is a result of my effort. Nobody else has done it here before, getting into failure analysis. As far as I know, nobody else is into it at the level that we are here. So that's kind of nice. I've started an entire area that hasn't been done anywhere else. I'm not sure about the comprehension of this around me, but personally, its very nice.

In these descriptions of some of the factors that define or generate a feeling of success, the underlying concept is that of having some control over the situations that occur during day-to-day workplace interactions. This active rather than passive response is consistent with the concept of social competence, the notion of how people participate in their societal or occupational roles (Rodin, 1985), where feeling competent takes on dimensions of having control over the results of your efforts. Indeed, competence, control, and belief in one's own abilities are the foundations that Bandura (1977) has laid for the formation of his self-efficacy theory. Self-efficacy could be defined as the belief in one's own capability to persist in adverse conditions, choose courses of action based on levels of self-confidence, and the expectations we have about successful outcomes in a situation that has presented itself to us (Bandura, 1992; Maddux, 1995).

In Matty's, the scheduling supervisor, case, she had worked up through the organization in accounting; therefore, she had little manufacturing production experience. Acknowledging that one of her subordinates was much more experienced in the product than she was, she still felt confident enough to let him do his job without micromanagement from her. She knew that her reputation for being willing to work hard and be fair with her subordinates would go a long way with the group of people that reported to her. Her self-confidence about her ability to manage seems to give an indication of a strong sense of self-efficacy.

The need to feel and be perceived as competent was not limited to the women in nontraditional roles. Cindy said, "My boss knows I can do my job well and he doesn't get complaints." Her obvious pride in her accomplishments over the past twenty years could be

measured in how many of the Alan Company salaried personnel spoke well of her abilities. Her capacity to take care of the small details, regardless of how busy she might be, was legendary.

However, the issue of competence was not mentioned by Alice, the human resources analyst. Likewise at Alan Company, none of the men expressed a need to be perceived as competent by their subordinates, peers, or managers. Only one man alluded to others' perceptions in this vein. Roy, the manufacturing manager, noted that "I think people have fairly good confidence in my ability." This observation was made within the context of describing his interpersonal management style. The other men did not reveal doubts about their technical capabilities, nor in their ability to perform their jobs. This is consistent with Bancroft's assertion that men have a lot of confidence even when their competence is low, but tend to quickly move to competence with experience (1995). All the men in the study had at least 15 years of manufacturing experience, thus their learning curve for organizational cultural knowledge had peaked many years earlier. Building on this understanding of the workplace rules, these men could then focus their effort and energy toward learning about new processes, technology, or materials. As noted previously, the women seemed to spend time in remedial learning of manufacturing technical fundamentals that many of the men picked up in the early years of their careers.

Satisfaction

If competence is the fuel that keeps these women moving on the road of success, satisfaction is the sparkplug. Their desire to achieve was energized by feelings of satisfaction. Phyllis, when asked about what things gave her satisfaction, related that doing a

good job and getting the recognition for good work were very satisfying. Martha expressed satisfaction when peers or subordinates came to her for advice or held her up as a role model. Alice affirmed that "I feel that people know they can count on me...to get the job done. And I feel good about that." Cindy was adamant: "I can tell you this, it is **not** a paycheck [that gives me satisfaction]. I really enjoy helping others."

All of these responses are indicative of an internal need being met rather than external rewards such as receiving accolades, promotion, privileges, or salary increases. These, and other women in the study, equated success with intrinsic motivations such as helping others, quality work, being a knowledge source, or solving problems. Denise, the purchasing buyer, related a particularly satisfying outcome as facilitator for a major cost reduction project:

> We needed to evolve from [just buying parts] to working directly with the engineers... and maintenance supervisors, working directly with them. That turned out to be really good....getting those teams together where we could all make decisions and point out the facts...about how much money we were wasting. Building these teams .... getting the group to make decisions and not dictating to them. But through the leading of these groups, they came to the same consensus I had when we started...which was great....That part I liked.

When asked if she got any recognition, Denise related that she got respect from management, engineering, and maintenance groups, which meant a lot to her.

Spence and Helmreich (1983), in their extensive studies on achievement motivation, have delineated motivation into the need for intrinsic and extrinsic rewards. Intrinsic motivation of behavior is finding pleasure or satisfaction in doing something that does not necessarily result in external reward. Excellence in performance, meeting internal standards,

and having good feelings, all examples of intrinsic motivation, were attributed to success and satisfaction issues by women in the study.

On the other side of the achievement motivation continuum, there are extrinsic rewards. According to Spence and Helmreich (1983), when the goal of certain behaviors is to be recognized for accomplishment through increased pay, status, power, or prestige, this crosses over from intrinsic to extrinsic motives for achievement. Within our society, these rewards are often equated with indicators of success, especially for men.

These intrinsic motives for satisfaction were consistently sought by the women participants in the study. This is not to say that they didn't want higher pay or more prestige within their respective organizations, but their accounts of successful outcomes tended to follow intrinsic motivation themes.

The men in the study related a mix of intrinsic and extrinsic motives for successful behavior. Gene, the inspection supervisor, attributed his success to being curious about the unknown and fulfilling his need to understand new things. Frank, the process engineer, believed that doing his job well and being known as a team player gave him feelings of satisfaction and were indicators of success for him. These intrinsic motives for achievement behavior are similar to the themes that the women related.

The other men described more external motivations for their behavior. Dan, the engineering manager, acknowledged that he was very goal oriented and many of his successes were due, in part, to his driving need to meet upper management's expectations. Not only did he push himself to meet organizational goals, he had devised a method to assess his subordinates in a system where they negotiated goals at the outset of the year, and he

then documented their progress toward achieving those goals. Salary increases and bonuses were awarded to his subordinates contingent on meeting their goals.

Roy, the manufacturing manager, described a successful outcome in the reorganization of two departments using participative management techniques. In summing up the experience, he noted "we achieved every one of our objectives." His reward for these efforts was a new position in a more desirable area. His trust that the system would reward his efforts was based on previous experience.

It is interesting to observe that the two men who related intrinsic motivations to their achievements were lower in rank in the Alan Company hierarchy than Dan or Roy. Gene and Frank, a supervisor and an engineer respectively, had similar status in terms of labor grade and scope of responsibilities as most of the participant women in nontraditional roles at Alan Company.

Other informants, male and female, when specifically asked what was most satisfying about their jobs gave responses such as: "...the feeling of accomplishment when I solve a meaningful problem..." "...working with and helping peers to get projects completed." "...flexibility..." "Knowing that the boss can count on me to do a thorough job." and "Networking within the organization to make positive changes." These statements are all consistent with intrinsic motivation.

Within the rubric of achievement motivation, satisfaction may also be found in competition with others; but, when asked about competition, none of the respondents could relate a specific example of a competitive situation. Many explained that the team concept and working in groups had been pushed by management at both companies. The men

suggested that they may have felt some competition in earlier years when promotions and new positions were more plentiful, but the downsizing had forced many people to be glad they had jobs rather than competing for the few openings that had been available over the past few years. The informants consistently indicated that plant management supported the teaming concept within the culture, but there was little evidence that they were also rewarded on a group basis. It appeared that raises and promotions were awarded based on individual performance and goal achievement.

Mentoring and peer support

We do not live in a vacuum. Vocational successes are often contingent on opportunities that are created by ourselves or others and, when offered, we take advantage of these opportunity situations. For this reason, moving up in the hierarchy really depends on assistance from others.

The women in nontraditional roles recognized that they were heavily reliant on the patronage of men in the organization since there were no women at either company in a position to affect their careers. Having a sponsor higher in management was the best way for opportunities to be accessed. Martha, the highest ranking woman in the study, had the benefit of two or three managers who took an interest in her early in her career. She described the give and take of the relationships:

> I would make some decisions and they would talk through them with me...As things came up, they'd say, "Oh, wouldn't you like to have this job?" And I would say no.... The one manager said, "Let's talk about this a little bit" and I changed my answer and took the job. I'm really glad I did afterward.

For Martha, these mentors were older family friends who knew her and her parents. Although these men were not close, they took measures that made things happen for Martha

for more than ten years. Her rise to middle management was well deserved according to other informants, but questions and about future promotions remain since these mentors have since retired.

Lena, the design engineer at Baker Company, was the other woman who benefited from formal mentoring by the plant manager and by her supervisor. These two advocates for Lena were younger (ages 35 and 45) males who had very progressive views regarding women in the workplace. In commenting on her supervisor:

> He saw the energy I had and the skills. I think maybe he, I don't think this is always true, but younger people can relate more to females in the field. In fact, his wife was an engineer. Just because I was a female shouldn't be an obstacle to get into management. Whenever he had to go out of town, he would leave me in charge. He was exposing me to scheduling and all the management side of engineering. He's been a good mentor as far as a boss.

For Lena, the plant manager was, and continues to be, a mentor and patron. Without her knowledge, Rob, the Baker Company plant manager, fought with other upper managers to get Lena promoted to engineering supervisor. He saw her capabilities, her knowledge, and described her as "an engineers engineer." There is more to this story, which will be related in the barriers section of this chapter.

For the women in this study, mentoring in the traditional context ends here. There were no other women who had what could be identified as the classical senior/junior mentoring relationship. For the rest, the women in nontraditional roles relied on peer support to gain information when entering new positions or supervisory support for recommendations for new assignments.

Sally was given new assignments by her immediate supervisor when she was on her meteoric rise through production supervision. But she indicated that she had not been

sponsored since that time, nearly twelve years ago. Denise also had only one supervisor who voluntarily helped her. After transferring to another department, she realized she needed to be vocal in demanding to be assigned more challenging work, "I've had a few supervisors who have taught me a lot. But only because I pressured them into doing that and would do things on my own." This bold tactic paid off when she was given an opportunity to do some programming for the maintenance system. In the end, this was the turning point for Denise to be promoted to purchasing buyer. Her lack of shyness about tackling new projects or asking for more information about unknowns has given her a mixed reputation with her peers in purchasing and with production departments, she admits.

The other women in nontraditional roles had no obvious mentoring from their superiors. Phyllis remains in her same department, with only two merit promotions in 15 years. Her first supervisor when she started at Alan Company was very enthusiastic and supportive, but he retired within a year after she was hired.

Vera has moral support from her supervisor, but has received only one promotion in her tenure at Alan Company. She recognizes that she is unique in her position as lab supervisor because she is so isolated, and decisions are made regarding quality of the product, not negotiating with other people.

Jayne, the production assembler at Baker Company, was at odds with her coworkers since the day she was hired. There was no one willing to help her, which she admits may have been due to her reticent attitude. Since she finished her degree, she has been trying to cultivate stronger relationships with management., because of her newfound interest in being promoted to supervision.

Matty called her supporters over the years mentors; but, when further questioned, it appeared that they were closer to advocates, not mentors in the classic sense. She received limited guidance and expanded opportunities in her rise through the accounting department and when she was given the team leader position for the software development project. However, her last promotion was nearly six years ago.

The two women in traditional roles, Alice and Cindy, received some benefit in being assisted by others, but not in the sense of being mentors. Alice was helped by a female friend who opened the door of opportunity by encouraging her to apply for a job at Baker Company 16 years ago. She had received several other plum assignments from this friend as a temporary worker before the job at Baker came up. However, she has not received any special mentoring or promotional support during her 16 years in human resources, other than good performance appraisals from the department manager.

Cindy had always been on good terms with her supervisors and peers, but her clerical position and her lack of higher education restricted the positions she could be considered for at Alan Company. Cindy had limited support from her supervisor recently when she demanded equal rank with a man in her department who was doing the same job as she had been doing for six years. Her boss went to upper management, reluctantly at first, but eventually got her labor grade parity with her male coworker. This effort on her behalf by the supervisor was initiated through Cindy's insistence, rather than the other way around.

All of the men except one indicated they were beneficiaries of the efforts of others. For most, these relationships were not necessarily a mentor/protégé type of exchange. The men appreciated the opportunities they were offered, but most didn't seem as grateful as the

women who were mentored or sponsored. Bill received several promotions as a result of his supporter in management. He noted that the relationship was somewhat reciprocal, "I don't think he took a particular interest in me other than I did the job he expected. I never left him to hang out and I think it was just a kind of mutual respect for each other."

Roy's sponsor was a neighbor that he used to baby-sit for before starting at Alan Company, promoting him out of the labor pool to run specialized machine tools. His mathematical background was a bonus in his new position, something his sponsor was well aware of and put to good use. Several of his early promotions were as a result of his sponsor. After several years, Roy was able to rely on his reputation for opportunities and advancements. Frank had superiors who were concerned, describing them as a variety of "coaches who helped him along the way," but did not receive any significant promotions.

Gene was the only male informant who credited his mentors with heavily influencing his career at Alan Company. He was "looked after" by an acquaintance of his parents soon after he started working as casting inspector. When he transferred to incoming inspection, he had two men who were patient and willing to train him in the finer points of part geometry, and who opened some doors for him for learning opportunities. He was especially appreciative of one mentor who taught him how to research and solve problems. Gene credits his need to understand and tenacity to this mentor. Neither advocate was able to get Gene a wage to salary promotion. He accepted this promotion because previous offers of supervisory roles would not have utilized his strengths in inspection and part geometry.

Dan was the only male who was adamant that he had no mentoring during his entire tenure at Alan Company. He admits that his supervisors gave him well-deserved promotions, but stated that any assistance he received was due to his efforts, rather than help from others. I should note that he was very proud of his abilities and the fact that he had 26 job offers when he finished college. He also took great pride in describing how he was learning to become a coach for his subordinates at the urging of upper management at Alan. Dan was a member of an internal human resources task force charged with the goal of training Alan Company management on teaming and group problem-solving strategies. He went to great lengths to let me know he was a self-made man and was currently in a position to make things happen for his subordinates.

Interpersonal style

Through all of the interviews and the follow up questions, I kept notes on my impressions of each respondent and their interpersonal style. Whenever possible, I had the meetings set up where I could watch the person walk through their home department or escort me through the plant. By observing how they greeted peers and other coworkers, their reaction to the tape recorder, how they responded to pointed questions, and their gestures during interviews, I was able to build a more complete picture of how comfortable they were in their work environment.

In the interviews, I asked them to describe how they got cooperation from their peers and subordinates, and to describe their management style if it was relevant, watching their faces closely. I was careful to dress in the much the same manner (casual slacks, blouse and

jacket) each time I had an encounter with the respondents so as to reduce variability in their perceptions of me.

The women in nontraditional roles in supervisory positions had interpersonal styles that emphasized hands-off management of subordinates, being enablers, and trying to help people learn and grow. Matty described her situation as:

> I've been real fortunate to have people reporting to me who understood what it is they're supposed to do and took the initiative to do it. Actually, one of the people that reports to me knows far, far more about his job than I do. ...So, he's kind of in the position now where he can do his own thing and I've been pretty fortunate that he does the right thing (laughs).

Lena characterized her view of the complex relationships between herself and the entirely male department she had just been promoted to manage as one of empowerment: "I try not to make anyone feel that someone's inferior and someone's superior. I mean, everyone has different skills and talents and we need to work together."

Lena was an obviously well-liked person at Baker Company. Greeting peers and production workers by first name, she smoothly negotiated her way to the room where we had our interview. We were interrupted once by the plant manager who stuck his head in to ask Lena about a meeting she just had with a team from headquarters. Nonplused, she quickly briefed him and told him they could discuss it in depth after she was done with me.

Martha saw the ability to function in the manufacturing environment as a team effort where she needed to have the cooperation from all levels in the organization:

> You have to work with other people and you have to get other people to work with you. Not that that's always been rewarded, but in the positions I've been in...you're never just there to make things yourself....You can't just make a decision without affecting [other people],...So I think that's one of the things I learned a long time ago.... to get other people's input.

She recognized that her consensus-building style was sometimes perceived by subordinates as being indecisive. Part of the problem was that she sometimes got too much input from others and that tended to delay things for other people. She admitted that "sometimes you don't want all the input." She indicated that she had become more autocratic lately because of the problem of information overload.

Martha's office, like several other middle managers, was a cubicle with three walls. Anyone could walk up to discuss something with her without knocking. There was little privacy. If writing reports or a having a discussion required privacy, there were a bank of offices with large plate glass windows that the managers and staff could use if they were unoccupied. However, we had trouble finding a room that wasn't busy. Her difficulty in restricting input seemed understandable given this open atmosphere in the office complex.

Vera, who had only a handful of subordinates, described her interpersonal style:

> I'm very democratic, not autocratic at all. On my reviews, my manager describes me as a very pleasant personality who gets along with everybody. I'm not confrontational, I'm very conflict adverse. I can get angry about something, but I don't address problems too much right up front unless it's really major.

She believes that this low-key interpersonal style has helped her in her career at Alan. She was promoted because she became the buffer between her manager and two quarreling lab analysts. He was grateful that she handled the tense situation and reduced the embarrassment factor the feud had caused outside the department.

Phyllis saw her interactions as situational, depending on the needs of the person she was dealing with. "Some people relate well to me, just tell me what's going on and some have to have a formal, written [orders.] I do whatever is required."

Her work area was a very isolated, quiet, well-lit laboratory where samples were brought in by engineers and production workers. The peace and solitude of this environment seemed insulated from the rumbling of production operations downstairs. Other lab personnel acknowledged Phyllis as she came and went but in a very reserved manner, much in contrast to the buoyant atmosphere of the rest of the plant.

For Denise in purchasing, the din of phones, voices, and constant human traffic made it hard to ignore anyone. In this department, all the buyers, expediters, engineers, and clerks are at desks in a bullpen layout. Although each desk is private, this doesn't prevent anyone from just walking up and interrupting a conversation or work session. Denise seemed to revel in this atmosphere, greeting peers, asking about a critical part, relating pertinent information to people as she walked by, or cajoling someone about a recent event. She was truly in her element here.

It became apparent that Denise was capable of being very specific when expressing needs from her peers. When asked about the way she interacted with her peers, she admitted that because of this direct interpersonal style, she is sometimes seen as a "bitch." However, she explained that in her role as a buyer, being tough and unwilling to be taken advantage of is central to successful negotiation with external suppliers and internal production departments. She stated that the male buyers in her area appreciated her style and assertiveness, with most of the criticism coming from women in lower ranks in purchasing or from production supervisors who don't work with her on a regular basis. Denise observed the difference in treatment that she received as opposed to another female buyer, Mary, who was less assertive:

> [The men in purchasing] treat Mary different. She's a sweetheart, but she's timid. She backs down easy. She doesn't stick up for herself and they treat her differently than they do me. It's not like they're afraid of me or anything. It's just that they treat me differently because I treat them like one of the guys, which is what I am...You have to be one of the guys.

This need to be perceived as "one of the guys" seemed to be an recurring issue for most of the women in nontraditional roles in the study. By gaining a reputation for competent work, being a reliable knowledge source, or having the ability to listen to off-color remarks without getting flustered, the women smoothed the way for improved relationships with the men in their peer groups.

Sally, despite being a production supervisor over an entirely male crew, saw her interpersonal relations with peers and subordinates dependent on the situation. "I work with people who have a lot more experience than I do." She was sometimes cautious about overstepping her bounds in an environment where her every move would be scrutinized. Thus, she used the power of the consensus decision-making to make better choices:

> It depends on the group of people. If I have an idea, and [the other supervisor] has a different idea, ...I might bounce it [off] him before I would enter it into his group of superiors or peers. In a group situation, I don't feel that I have [the authority]. I feel you come to a better decision, rather than being made by just one superior.

Sally noted that some foundry supervisors still tended to revert to an autocratic style when things became intense over production schedules or problems, but she preferred to use more participative techniques in her department, "I don't ask anyone to do anything that I wouldn't be willing to do myself." She acknowledged that this style caused her problems with her male colleagues because some perceived these techniques as less effective. However, she continued to use her preferred interactive methods because the results she was achieving with her subordinates was satisfactory to her and her superior.

Alice and Cindy, women in traditional roles at Baker and Alan respectively, try very hard to avoid conflict in their daily interactions. They admit that sometimes it is easier to acquiesce to unreasonable demands than to argue with the requester. Both of their positions are very service oriented, requiring that they perform a variety of tasks for people in different levels of the organization. Being helpful to people is the core responsibility of their jobs and a sour attitude or resisting requests is not consistent with their roles. Both were bubbly and friendly in their greetings to peers in the hallways or the offices. Men and women alike smiled back at them and said hello, or asked how they were.

For the men, interpersonal relations sometimes had a less personal flavor. This is not to say that they never acknowledged their peers or smiled, but the dry greetings to fellow employees that most of the male participants gave was a marked difference from the women.

For example, walking through the plant with Roy, we passed several engineering departments. He nodded at a couple of male peers, said hello to a pair of men at the coffee machine, but otherwise he focused on speaking with me about Alan Company and some of the recent events at the plant. When we arrived at his home department, he introduced me to some of his subordinates who were working at their desks. They shook hands with me and then returned to their work. Roy showed me a copy of the organizational chart for his division to indicate where he was in the hierarchy. We then went to an isolated room to do the interview.

This no-nonsense interpersonal style was also exhibited by Bill and by Dan. This is not to say that they were cold and rigid. Rather, I would describe their interactions with fellow employees as less jovial, with an effort to appear serious to their peers and

subordinates. This is consistent with the literature regarding cultures that value authority and technical competence, where immaturity and frivolity are seen as out of place with the organization and intimacy is to be avoided (Deal & Kennedy, 1982; Kofodimos, 1994).

Roy saw his managerial role as one that should allow people to develop within the system, get the most out of them for the company, and work with his subordinates to address their deficiencies. He had promoted several people during his tenure at Alan, something that seemed to give him a lot of pleasure. Roy described his interpersonal style with subordinates:

> My job as a supervisor is to develop people. I don't focus specifically on one or two people, I try not to. I try to develop everybody. ...It's just me as a supervisor that has to recognize their ability and their performance and then do the right steps, do my job and promote them. ...Its great to see someone promoted like that. After your years of working with people, you see people that stand out and people that aren't there.

He felt that building self-confidence in his subordinates had a positive impact on his own self-confidence, thus he recognized the reciprocal nature of helping his employees. When asked about his management style, he described it as ranging from the "do and tells" to a more cooperative style, depending on the need. "I don't think there's any one day that I don't use all those styles." When there was time to plan and get input from the group, Roy let the team make the decision, but when upper management makes short timeline demands he said "you must respond, or else."

Bill, the manager in marketing, gave a lot of credence to his subordinates having confidence in him, "I hope it's because they respect me as their supervisor and that they have the faith in me to come ask a question and get a straight answer." He emphasized the mutual trust and the teamwork aspect of his relationship with his group: "...hopefully

they're doing their job, we're working together. We're working as a team to get resolution of that [problem]. They do a pretty good job. I'm pretty fortunate in that."

Dan saw his role as a manager changing from being a supervisor to becoming a coach or counselor, but felt he was not able to act in that capacity yet:

> I believe my job in the last 10 years has gone from supervisor to human being counselor. I try to work in that kind of environment. People come in and they need all different types of management styles, from the callous type to the "what do you think" type. Coaching, well, I don't do that....I'm being coached on how to be a coach. That's where we're going to go if we're going to survive in this company.

Dan's observation that the decided shift in human resources management philosophy at Alan was not isolated. All of the informants at Alan Company concurred that there was a concerted effort on the part of management to drive decisions lower into the organization and get away from the dictatorial style that was prevalent 20 years ago. Teaming was a recurring theme at Alan and Baker, with both companies emphasizing the need for people to work together more.

Gene, only being a supervisor for five years, described his style as very personal, using different styles as required. His conscious effort to treat his subordinates as equals was a major change for the department when he came on board as supervisor:

> When I became a supervisor... one of the first things I did was hold a meeting with the employees of my department. I told them I didn't know how they had been treated in the past, but my perception of my job was to work for them, not for them to work for me. I was there to see that their environment was safe and that they had the tools necessary to do the job. ...I told them that I expected truth in reporting and I expected that if I treat them fairly, they treat me fairly. At first there was a lot of suspicion, ...but eventually we got to the point that they'll do anything for me and I'll bend over backwards for them.

Gene noted that his more personal style was the result of being a blue-collar employee for 29 years and he had resented the high-handed treatment some supervisors

utilized to get results from their subordinates. He was the only male participant who was directly supervising wage personnel. All the other men in the study had salaried employees for subordinates.

Frank seemed to be uncomfortable with making demands from his subordinates. He joked that he used the "buddy method," asking for help or favors rather than giving specific orders to his subordinates. He said that the maturity of the workforce and the need to fix problems rather than assign blame made his style less authoritative. He used the term coaching in the context of describing the current expectations from management. Recall that Frank worked for Dan. The term coaching was also interspersed in Dan's dialog.

This concept of coaching rather than mentoring at the Alan Company seems to be the latest buzzword in their evolving team-building process. The need to respect other's talents and experiences, combined with the goal of meeting internal and external customer demands, may require a coach rather than a supervisor. The need for managers to allow employees to self-manage all the while encouraging learning, keeping the organization competitive, and remaining effective in their areas of responsibility is the new paradigm that has been described as "management of context" (Burdett, 1994). Rather than controlling (or managing) resources, managers are expected to be coaches, role models, and leaders. This is a tall order to fill, as Dan acknowledged.

In summary, achieving success is like trying to hit a moving target. Competence, satisfaction, assistance from others, and interpersonal style are factors that weigh heavily on the scale of success, especially when used collectively. The next section will explore the downside of success and how it affected the participants of the study.

Barriers to Success

The preceding themes evolved around the factors that contributed to success for the informants. Competence, satisfaction, mentoring and peer support, and interpersonal style were common elements in the results of my searching to identify factors that influenced women's perceptions of success in the manufacturing environment.

Failure, the dark contrast to success, is a harsh term. It signifies defeat in most people's minds. It has such negative social connotations, that we sometimes deny that it has happened to us. Asking questions about barriers to achieving success, I believe, elicited broader responses than had I said "so me tell about your failures." I should note, however, success is not possible without overcoming a barrier or challenge that is placed in our path. Therefore, barriers are just that, roadblocks, not necessarily a place to lay the blame of failure. Getting around them may be impossible for individuals, regardless of their capabilities.

The barriers to achieving success for women in nontraditional roles in manufacturing had three main themes: the glass ceiling, gender issues, and the corporate organizational culture. For this study, the "glass ceiling" is an invisible barrier to upper management positions that women and minorities seem to encounter more frequently than white males (Morrison, White, and Van Velsor, 1992). The male respondents gave some depth to the understanding of these barriers for women; noted barriers that they had encountered, thus, helped me comprehend barriers for people in manufacturing, in general.

The glass ceiling

At both Alan Company and Baker Company, the glass ceiling seems to exist. Phyllis quipped "Its not a glass ceiling, its a brick wall..." meaning that no women had risen above middle management at her company and probably wouldn't do so in the near future. Further research revealed that women were not found at either company in roles above the level of middle manager. Martha, a middle manager, was the exception rather than the rule at Alan Company and was often mentioned as a "woman who had made it...," but her perch in the hierarchy wasn't very high when contrasted against the height of the entire management structure.

Baker Company was even more conservative in the promotion of women where it appeared that Matty and Lena were the ranking women employees at the Rock River facility. This limitation to the heights that women were allowed to rise in both these manufacturing organizations was recognized by both the men and the women as a problem. The women, however, seemed to be angry about it, where the men often tried to excuse it.

An example of the difficulties women faced in breaking into upper management was in Lena's promotion. As I alluded previously, there was a huge battle at Baker Company before Lena was promoted to engineering supervisor. Rob, the plant manager, had been Lena's mentor and advocate since she came to Rock River from headquarters. Lena's immediate supervisor and Rob had joined forces to get her promoted to a position for which she was well qualified and was considered the best candidate. In a meeting with the upper management group for the Rock River plant, Lena's pregnancy became a stumbling block to her promotion. Several men in the group felt that she would not be able to devote the time

this new position warranted after the baby arrived. Her due date, in three months, would mean that she would be taking time off just when she was getting started in her new position. They also had concerns about her dedication to Baker Company, believing that she would become more interested in the child than in engineering work.

Rob argued that Lena's pregnancy wasn't affecting her capacity to think and that he was surprised that they would raise such an issue. Undaunted, the discussion with upper management became a debate between Rob and the group. In the end, Rob had his way. His winning argument hinging on a two part attack: that the time she would be taking off was no different than time off a male might take if he had a temporary medical problem, and that Lena's past performance indicated she would continue to be dedicated to her job and a baby was not going to change her drive to achieve.

Lena was offered the position a few days before I interviewed her, having no clue about the tone of the discussion that had occurred in upper management at Baker Company. Rob was elated that Lena got the promotion, but he seemed disappointed that there had been doubt about Lena on such a trivial issue.

The resistance at Baker Company toward Lena was not unique. In my conversation with Rob, I also found out that the man that Matty had viewed as a mentor was actually very sexist in his comments when in the company of men. Matty believed that this man had promoted her because he wanted to broaden her horizons and that she had good rapport with him. Her manager actually gave Matty additional responsibilities because she had performed above expectations. Behind her back, he would complain to Rob that women had

no business in these positions and made many disparaging remarks about her. This may have been his way of trying to be "just one of the guys" when women weren't present.

After my interview with Alice, I realized that Matty was viewed as a token by some employees at Baker but that she had been promoted because (as Alice believed) she deserved the recognition. Rob concurred that be believed that Matty had earned her promotions.

Phyllis observed that the lack of women in upper management at Alan Company appeared conspiratorial, "it almost seems they'd prefer to have an incompetent male than a competent female." The shrinking of the workforce over the last decade at Alan had reduced the number of opportunities for upper management, but there had been some promotions in recent years.

Phyllis was rather bitter that a man who came into the department as her subordinate was promoted above her after he had learned only rudimentary lab procedures. She was working for a manager who, she stated, didn't believe women belonged in manufacturing roles. According to her, this manager continually gave the women in the department less access to resources than the men in similar positions. Checking with another woman in Phyllis' department, I verified that this manager's duplicitous practices were well known among the women in the department, but I could not find evidence of remedial action by upper management.

Beyond the issue of access to resources, the absence of women from higher ranks in management may have other causes. I believe some women had engaged in self-selection, that is, they did not actively pursue advancement or exposure due to beliefs about the system or their capabilities. For example, Vera had discounted her abilities when considering

whether to apply for a position at research and development. Her reasoning was, "I was sure they would not give it to a woman. There'd be a lot of travel and a lot of interfacing internationally. I was pretty sure they wouldn't want a woman representing them." Even though she had discussed the position with her peers and they had urged her to apply, she refrained because she was convinced a woman had no chance at such a high profile position. It seemed that she wanted to avoid the risk of being turned down.

Denise felt that management's action of moving women up into buyer positions in purchasing was being done to meet an internal quota system and was mostly window dressing. She noted that the women buyers were never given areas of responsibility that had a large impact on the production lines. Buying machine repair components, low cost items, low technology products, or readily procured parts, were the areas that most women buyers were slotted into, according to her. Denise felt she would never be promoted to manager status in purchasing because she would never be given an opportunity to get experience on the traditional career paths other male managers had followed. These paths were usually from production supervisor, production buyer, engineering, or other managerial positions in the organization.

The glass ceiling issue was viewed by the men at Alan differently than the women. Gene was sensitive about the problem, commenting that many women overcompensate for the barriers that they encounter. He noted that the problem is more societal than a specific issue at Alan Company. Roy believed that the glass ceiling exists for a reason at Alan. His justification:

> I think one of the reasons women don't go to the top is that they don't have the background experience sometimes. I hear the women complaining that we don't

> have women in top levels of management, well, its an evolution thing. For one, things don't happen overnight and at Alan it doesn't happen overnight.

His justification for the lack of women in upper management at Alan because of experience and organizational issues was consistent with several other male informants views on this issue. Bill observed that there were more women in manufacturing now than 20 years ago, especially in human resources. Alice, who worked in human resources, made a similar observation about the numbers of women in this area of the manufacturing environment.

Gender issues

Beyond the problem of the glass ceiling in manufacturing, there were a plethora of concerns expressed by the women about their situations at Alan and Baker Companies. Likewise, the men at Alan had their views about the differences between men and women in the workplace that they shared with me.

The female perspective

Discrimination, although not commonplace, was an undercurrent in the workplace for the women. Mostly subtle, sometimes overt, it often colored their dealings with peers, subordinates, and managers. None of the women had been physically assaulted, but some incidents were no less demeaning or upsetting for them.

Denise related two incidents that revealed the uglier side of being a woman working in a manufacturing environment. In the first, she was functioning as a liaison from engineering, going out to maintenance departments on the production floor to train employees how to use the computer system:

> We would go to the different... areas and I would be the one showing them the different transactions. ...They were sizing me up and down. I had a couple of guys afterward call me up and ask me out, married men. It was [the thinking that] ...she's got to be sleazy if she's in a man's world. To me it was demeaning, it was not a compliment. It was demeaning.

As a result, she gave the callers a good tongue lashing, and they left her alone. In another incident, several years later after her promotion to purchasing buyer, Denise participated in a training course on site at Alan Company. The class was for supervisors, managers, sales personnel, and purchasing buyers to learn how to effectively make presentations. She related what happened:

> I was the only woman [in the class]. Everyone had to give a presentation that they picked. I chose budgets...After I got done [with my presentation], there were cat howls. [The men teased] "Oh, Denise, you're a woman, you could convince anyone to do anything." They didn't even listen to a word I said. I was so pissed. I just sat down in my chair and thought *Jesus Christ.*

Other episodes of harassment the women related weren't as graphic, but were no less painful. Sally has had a particularly rough time in the foundry. Being a production supervisor with only male peers in an environment that is very strongly masculine has been a challenge that she has had to face constantly. She related an incident that occurred when she changed assignments to become a production supervisor:

> I had more problems with salaried people than wage. I had a couple of instances where an employee of mine came up to me. While I was talking to [the employee] another supervisor [came up] and said "Why don't you just go back in the office where you women belong and let us men handle the situation out here."...He couldn't have said it in front of a worse person...This person is hard to deal with anyway. ...The second time that happened, I went to the [supervisor] and explained to him that I was very upset. There were no words minced at all...it has never happened again.

This example of poor treatment by peers illustrates the competence testing that men inflict on women to determine their qualifications for membership in the group (Foschi,

1991). In another example of differential treatment, Sally frequently has learned about changes in areas of responsibility from her peers rather than from the manager who made the decision. When this has happened, she felt that it put her in a position of being held in lower esteem than her male peers. Confronting the manager about his lack of consideration has not always been effective. She looks forward to retiring in five years, getting away from the constant battles for parity and fair treatment.

For other women, the discrimination was not as mean-spirited, but was still unappreciated. Lena was not totally incognizant of duplicity in her treatment at Baker Company. She related an incident where management tried to restrict her participation on a project because of her sex:

> When I first started, I designed a new drive....We were having some problems with the coupling...They were going to send someone else out there when I designed the whole drive. They wanted me to pass over all the old drawings and explain to them, they would have to go back and forth. I was really upset and they heard I was upset. I said "just because I'm a female, I don't mind getting my hands dirty." ...Maybe they were looking out for me, they were [being] protective.

Lena has had peers question her decision to become an engineer, commenting to her that secretarial work would be more appropriate for a woman. She dresses very conservatively to avoid leers or snide remarks about her physical appearance. She also acknowledges that she must work harder than the men to be accepted and to gain respect. She remains optimistic that the situation for women will eventually improve.

Although Matty did not relate any specific incidents of discrimination, she did say that there were times she felt uncomfortable in some situations. Casting doubt on her abilities through subtle inferences, her subordinates and peers have given her pause at times.

But she doesn't get too upset if an inquiry about the product is directed to someone else in her department.

Martha indicated that she doesn't frequently experience discrimination, but she has been caught off guard when she encounters negative attitudes. She said, "You do get that every once in a while, after you go for so long and you think "Oh my god, this is really happening." " She tries to avoid particularly caustic personalities, tending to be less open with those persons, being more detached.

Cindy's efforts to get labor grade parity with a male peer doing the same job in her department is another example of the differences women notice in treatment. Vera, who had a master's degree in biochemistry, was hired at a lower labor grade and pay than men with less education hired at the same time. She expressed anger at the human resource management department for taking advantage of her trust that she would be treated fairly.

Jayne experienced many off-color remarks in her early days on the assembly line, but she already had been exposed to this treatment at other companies and didn't let them bother her too much. She did relate a story about a young divorcee she worked with at Baker Company who was the target of a campaign of harassment by an older male peer. He taunted the young woman, suggesting she should get a secretarial job and complaining that she was taking a job away from men with families. The young woman many times left in tears at the end of the shift. Jayne said she has never cried, no matter how bad the treatment by the men became.

On the lighter side, Phyllis joked that some new male transfers into the factory are sent up with particularly smelly or disgusting samples for her to analyze. She laughed:

> I get one every now and then, a really gross sample. They like to see if they can gross out the lady from the lab. This has got to be a new guy, because the old ones know they can't gross out the lady from the lab. I used to work in a hospital. There isn't *anything* you can bring me from here that's going to gross me out.

Martha also had a rather humorous incident to relate about how the men behaved after attending sexual harassment sensitivity classes:

> I can tell when men have gone to harassment classes [sic] because they won't come and sit and have lunch with me, or they make remarks like "I don't want to talk to you because you may [sue me]"... Yeah, I always could, don't you understand it?(laughs).

The fact that Alan Company is addressing the issue of gender differences by forcing male and female employees to attend sensitivity classes seems to indicate that upper management feels the need to address the problem. By increasing awareness and giving employees the sense that management supports diversity in the workplace, positive results may include reducing friction and harassment, discrimination (subtle and overt), and have an effect on gender imbalances in situational and hierarchical power (Martin, 1991).

The male perspective

The men did not relate any incidents of discrimination that they had experienced, but some gave credence to the common belief that women must often be more competent and effective than the men that they work with in the same roles. Gene felt that many women in the Alan Company organization also didn't get a fair chance at advancement opportunities.

In some of the men's remarks, it became apparent that they do treat the women differently than the men. Roy noted that he assigned jobs in his department according to his perception of the abilities required for the project. "There are some assignments you don't

give to certain people" he said. When asked about how his female subordinates functioned with the production departments, Roy made a rather surprising observation:

> My women processors that work for me, Liz is just a really, really cute gal and a man, being a man, you know, when she walks out into the shop, turns and looks (laughs). That's, that's, sexual attraction, you know. I don't know you'll ever get away from that. So a woman has to learn to deal with that, and Liz does a very good job. She got promoted.

This attribution of sexuality by Roy to his subordinate is known as the Abbey Effect, where males are more likely to perceive flirtation or sexual interest in interactions with females who are only acting friendly (Edmondson & Conger, 1995). The incident that Denise related about the married men believing she was available because she made a technical presentation in their work area, was also a manifestation of the Abbey Effect. This has been found to be a common problem for women who work in male-dominated environments (Edmondson & Conger, 1995).

On the other hand, Roy criticized one of his other female subordinates, saying that he "didn't think she was very good" and "...became frustrated with her mechanical decisions sometimes, her basic mistakes." But, in trying to put a positive word in for her, he did note that she had good people skills. It was hard for me to determine if his criticism of this female subordinate was validly based on poor performance or on gender issues.

I must note that criticism of women peers was not limited to Roy. Dan believed that women have problems in manufacturing because they are not interested in the field. Gene thought that the female engineers he had regular contact with were very competent, but needed to be more aggressive. At first, these comments about women in the manufacturing

environment were rather innocuous; but on further examination, I found that the men were never critical of another male peer in any of the interviews.

An example of this dichotomy could be found in Roy's remarks about his new manager who (he noted) did not have a manufacturing background: "There's politics in business, too. This new boss, Ray. He's obviously pushed some of the right buttons and [he was promoted]. But he'll get the experience someday."

According to Roy's remarks, it was acceptable for a man to be promoted into a managerial position without manufacturing experience, but in an statement earlier in the interview, he said he believed that women who didn't have manufacturing experience shouldn't be promoted. His criticism of women for having deficiencies in experience as an explanation for their lack of numbers in upper management made this lack of criticism for a male superior having the same deficiency appear unjustified. This apparent ambiguity in judging abilities based on gender was something that three of the women in nontraditional roles found to be infuriating.

Bill had a rather interesting deduction about the effect of the downsizing and subsequent hiring freeze at Alan Company. He thought that women had been given more opportunities in nontraditional areas because of the hiring freeze. Instead of bringing in a young male college graduate to fill a position, following tradition, management at the Alan Company had been forced to look to internal promotions for personnel. He saw that many women were being utilized in broader capacities than before the downsizing.

Barriers for the men

Before we leave the gender issues theme, I must relate the barriers that the men experienced in their tenure at Alan Company. There were problems that they did encounter that were somewhat different than the women's barriers. For three of the men, education became a factor in their promotability. Gene and Roy were both just a few hours short of a bachelor's degree and acknowledged that the lack of the degree had a dampening effect on their careers. Roy was denied his last promotion to upper management, and Gene recognized that he would not be considered for any more promotions without the degree.

Although Bill had his bachelor's degree, he had achieved it while working at Alan as a supervisor. He felt that, had he finished the degree sooner, he would have been higher in the organization by now. He believed that anyone who aspired to upper management must consider advanced degrees.

A barrier that Frank encountered was due to turning down an opportunity for advancement. He said he was tired of being on the road so much, so he refused a promotion. He saw this as a self-imposed barrier rather than an organizational barrier.

Although Dan said he had never experienced barriers in anything, he did recognize that if he wanted to be promoted to corporate, international experience was very desirable. He felt that any barrier could be overcome by getting the right qualifications.

The corporate organizational culture

The way that individuals behave in the workplace environment is often determined by the culture of the organization. The interactions between people working in an art gallery have completely different rules of engagement than the exchanges that take place on a

military base. Likewise, the expectations and assumptions that were imbedded in the cultures of the Alan and the Baker Companies were built on nearly a century of tradition, constructed by a patriarchy that still maintains much power and is slow to change. This type of culture has been described by Deal and Kennedy (1982) as the "Bet-Your-Company Culture" where the huge investment in a high cost capital-goods product (heavy equipment at Alan and automated looms at Baker), and the risk associated with strategic decisions may not provide feedback for several years. In this type of culture, change is very slow because the timelines for results are long. Like a huge behemoth, changing course takes plenty of time and incentive. For the Alan and Baker Companies lead time between initial design considerations and finally shipping the product may be as long as five years. The investment in the future is well thought out and tends to reward persons who are able to make measured and deliberate decisions with the stamina to wait for results (Deal & Kennedy, 1982).

The term "traditional" came up many times in the interviews when respondents described their respective company. On further probing, traditional was construed to mean: slow to adopt to new ideas, maintaining a conservative management style, cautious about new technology, bureaucratic, and/or stodgy. These descriptions are consistent with Deal and Kennedy's model.

New employees at the Alan Company in the past five years were introduced to the culture in an intense immersion process that was specifically developed to bring them up to speed rapidly. Frank, one of the designers of this indoctrination, admitted, "we had a pretty narrow vision of what the Alan Company way was...take that for what it's worth." When he was hired in 1977, he was not given any special indoctrination because there were so

many new employees coming in at the time. The company needed to make product, not spend large amounts of time priming employees for the culture. Since then, it seemed that bringing new employees into the fold had become an important ritual at Alan. Being absorbed by the organization is a desirable process when you are a new employee, according to Dauch (1993), rather than trying to make a splash with suggestions for significant changes.

The discrimination that many of the women experienced, and the men were aware of, occurred because many individuals saw nothing wrong with their behavior. Women on the production floor was still an uncommon occurrence at Alan and Baker Companies and men making animal noises as they walked by was not considered passé. Many supervisors and managers could be seen gawking at passing females on the production floor in the Alan Company facilities.

Some of the women had become resigned to the cultural situation and hoped that the next generation of employees would have better experiences. Phyllis wanted to be allowed to do her job well and let the younger women "beat their heads on the [glass ceiling]." Cindy was content to remain in her current position if she could count on the system to give her an occasional kudo and be able to work peacefully with her coworkers.

Other women were pushing to change the culture by making inroads where they could. Lena was confident that she would set a good example for other women and perhaps be able to change a few of the men's attitudes about women's abilities. Denise, although saying that she probably would never be promoted to manager, continued to challenge her peers about their assumptions regarding women. She was elected chair of a local technical

society that had many members from the Alan Company. This exposure to a professional woman in this capacity gave her credibility with men outside the purchasing department.

The definition of corporate culture, "how we do things around here" (Drennan, 1992; Bernstein & Rozen, 1992), has many implications for the internal and external interactions that occur between individuals. Within this culture, power is a force that cannot be ignored. For the men, the assumptions that they had about the reward system, the hierarchy, and their male and female peers, related to the accession of power.

An example was the assumption that Bill and Dan had about their prospects for future promotion. By working hard, having the right credentials, and making their desires known to upper management, they believed that their chances for advancement were virtually assured. These men were middle managers with power and credibility.

Contrast these men to the women in nontraditional roles and there is a completely different set of assumptions. Martha, Denise, Matty, Jayne, Phyllis, Vera, and Sally stated that they believed their chances for promotion were very slender, even though they had the educational credentials, good performance records, and had expressed interest in advancement. They believed that they did not have the power or influence to make their aspirations come true. The only acceptation to this belief was Lena, who was still in the early stages of her professional working career. She had received her first promotion after working for 10 years at Baker Company and still saw room for advancement in the organization.

Summary of the Chapter

This chapter related the themes I discovered in the data and gave supporting evidence of the factors that contributed to the successful careers for women in nontraditional manufacturing roles. In painting the picture of what success is for these women, a quartet of themes rose to the forefront: 1) competence, 2) satisfaction, 3) mentoring and peer support, and 4) interpersonal style. Within each of these factors, there were similarities and differences between the men and the women in the study.

The women expressed the need to be perceived as competent by their subordinates, peers, and superiors in the organization. This was not the case for the men. For both men and women, satisfaction was related to more intrinsic rather than extrinsic motivation. Some of the men, however, indicated that goal orientation and the need for the recognition rewards were strong, both factors being extrinsic motivators.

Both men and women recognized the need for assistance and support in gaining access to opportunity situations. Although only two of the women and one of the men experienced what could be described as true mentoring relationships, many of the other informants gave examples of peer and supervisory benefactors that helped them in specific situations.

The interpersonal styles utilized by the participants was a mixed result, with many of the women in nontraditional roles and men utilizing a situationally-determined styles to achieve results. The women in traditional roles seemed to take a more feminine, or maternal, approach to interaction rather than being demanding or assertive in their relations with peers. The men perceived that being supportive and empowering in their relationships with peers

and subordinates was something that was expected of them by management. This change from traditional command and control style, to a more participative management style is consistent with some of the current issues surrounding quality, teaming, and flattened management structures.

Conversely, there were factors that represented barriers to achieving success for women in nontraditional roles. These barriers were: 1) the glass ceiling, 2) gender issues, and, 3) the corporate organizational culture. The findings revealed some differences between the men and women in regard to the barriers they encountered in the manufacturing environment.

For the women, the glass ceiling was a barrier that they were very aware of, but had little incentive to break through. The men acknowledged the glass ceiling's existence, but tended to rationalize it as part of the inherent culture of the organization. The effect of the glass ceiling on women was supported by the participants' perspectives of their respective company's culture.

Gender issues seemed to take the form of perceived discrimination in the workplace for the women, but the men didn't experience this barrier. The data from the men gave credence to differential treatment of women peers and subordinates, but they did not see this as a critical problem. The differences in perceptions between the men and the women do seem to boil down to gender issues which might be summarized in terms of the double standard.

The barriers that the men indicated that were difficult to overcome were lack of educational attainment and self-selection. The issue of self-selection may also have some bearing on the low numbers of women in nontraditional roles and in upper management.

In the next chapter, I will discuss the implications of these findings, contrasting these results with other related research, and discuss further research needs.

CHAPTER 5:

DISCUSSION AND CONCLUSIONS

In the previous chapter, the findings of the study were revealed and supporting data were presented. The results indicate that success is an elusive target for women in nontraditional roles in lower levels of the manufacturing hierarchy, but there are indicators that their positive outcomes outweigh the barriers they encounter.

In Chapter 5, using the research questions of the study as a framework, I will discuss the perceptions of success for women in nontraditional roles in manufacturing, address the three constructs of leadership style, achievement style and mentoring as they related to the data, elaborate on the factors of success that did not fit within the paradigm of previous research, and explore the contrasts between men and women in the manufacturing setting. As a capstone to the chapter, the implications for future research will be discussed.

The Research Questions

The research questions that shaped this study were:

1. How do women in nontraditional roles in lower levels of the manufacturing organization define success within the context of their experience?
2. Do women in nontraditional roles in manufacturing organizations utilize the constructs of leadership style, achievement style, and mentoring to produce success?
3. Are there other factors that have greater significance on achieving success as defined by women in nontraditional lower level roles in manufacturing?

4. Are these women different in their perception regarding the selected factors that contribute to success than women or men occupying traditional roles in manufacturing environments?

Research Question 1

How do women in nontraditional roles in lower levels of the manufacturing organization define success within the context of their experience?

Within the context of the manufacturing culture, women in nontraditional roles often perceive success as being seen as competent by their peers, subordinates, and superiors. In addition, some women receive satisfaction from intrinsic needs such as meeting personal standards of excellence, being a knowledge source, or solving a problem. Having the support and advice of a mentor or the advocacy of a superior was also necessary to achieve successful outcomes in the form of new assignments, opportunities, or promotions. Lastly, success was achieved through their interpersonal style which tended to be represented by people-centered, participative, or enabling themes.

Research Question 2

Do women in nontraditional roles in manufacturing organizations utilize the constructs of leadership style, achievement style, and mentoring to produce success?

Within the factors of competence, satisfaction, interpersonal style and having a mentor, some women in nontraditional roles did utilize these constructs to produce successful outcomes. However, achievement style, satisfaction, and competence seemed to be a triad of issues that have more weight for the women in this study, rather than achievement style as a single construct. Leadership style was not fully supported in the data

as an indicator of perceived success. Mentoring was found to be a desirable factor for extrinsic evidence of success for women in nontraditional roles.

Research Question 3

Are there other factors that have greater significance on achieving success as defined by women in nontraditional lower level roles in manufacturing?

Rather than finding other factors that facilitated success, the results found there were barriers to success that had a deleterious effect on success for most of the women in nontraditional roles. The glass ceiling, gender issues, and the corporate culture were barriers that affected the women at both companies in the study. The men included in the study experienced barriers of a different, and perhaps less, debilitating nature.

Research Question 4

Are these women different in their perception regarding the selected factors that contribute to success than women or men occupying traditional roles in manufacturing environments?

Yes, and no. They appear similar to other women in traditional roles in some of the barriers that they experience, the need for being perceived as competent, and satisfaction rewards. They seem to be similar to men in traditional roles in their interpersonal style and in some achievement motivation.

Discussion of the Findings of the Study

In the next section the discussion of the specific findings in Chapter 4 will be addressed and contrasted with relevant literature and research. To reiterate the themes from the data with respect to the Research Questions, the perception of success for women in

nontraditional roles in manufacturing encompassed: competence, satisfaction, mentoring and peer support, and interpersonal style. The barriers to achieving success for some women revolved around the concepts of: the glass ceiling, gender issues, and the corporate organizational culture. A discussion of these issues and an overview of gender roles and social identities as a clarifying section follows.

Competence

The first theme the data revealed was the need for most of the women in nontraditional roles to be perceived as competent contributors to the organization. By functioning effectively in their occupational roles, seven of eight women perceived they were successfully fulfilling their obligations to their peers, supervisors, and the corporation at large. Competence, the ability to adapt to changing organizational environments or situations, has been associated with self-efficacy and the motivation to achieve (Maddux, 1995).

Women and men in the workplace compare their capabilities with peers as a way of generating feedback on their performance. Bandura (1992) asserts that self-efficacy beliefs are causal factors in personal motivation, thinking patterns, self-selection, and behavior modification. To elaborate, if a person has a very strong belief that they can succeed in spite of obstacles, they are more likely to continue to persist and succeed in an opportunity situation. But Bandura goes on to say that self-efficacy beliefs must be founded on experiential, accurate, and sound information (1992). For example, Napoleon believed he could conquer the world based on delusional thinking. Thus, efficacy has an impact on personal vocational gains if the belief that one can succeed is based on personal ability,

experience, and taking on obstacles that can be overcome with the tools the person possesses.

Maddux (1995) ties the concept of competence with mastery, confidence, control, and the probability of success. These social psychology theories are beyond the scope of the discussion in this study, but a few words about control and the probability of success may be in order.

Control is a complex human behavior that has a variety of forms and accompanying theories. The desire to manage our affairs and have an impact on our circumstances is the need for control (Rodin, 1985). Locus of control is the degree to which we believe that our actions have an effect on outcomes. This differs from self-efficacy because control is about desire to control, not necessarily believing we can succeed in controlling.

The motivation to succeed, have a goal or reward that is desirable, and have a belief in the probability of achieving that are viewed as having an impact on our personal achievement motivation (McClelland, 1985). Therefore, the chance that success will occur is based on skill (competence) and confidence (self-efficacy) and modifies our achievement motivation behavior.

Linking confidence and self-efficacy is consistent with the data in this study. The women in nontraditional roles who had the experience, capability, and job knowledge coupled with strong confidence in their ability firmly believed they were successful. Four women (Lena, Phyllis, Martha, and Denise) expressed confidence in their abilities to effectively contribute to the smooth functioning of their respective areas of responsibility. Three others (Matty, Sally, and Jayne) were confident, but not overly so.

Being seen as competent in the eyes of their peers, male and female, fed their feelings of efficacy and, like a never ending circle, contributed to their confidence and feelings of competence. Matty's successful presentation to management from Baker headquarters was an excellent example of perceptions of being competent as a confidence-building outcome.

Building a powerful educational portfolio as a way to document competence is another confidence-enhancing tool that the women utilized to define success. Having someone think you are competent is more likely if you have credentials that are widely recognized by society. The MBA that Martha achieved was a way to let her peers know that she was capable of meeting a set of criteria that management valued in the Alan Company culture. Indeed, the lack of a college degree had been determined as a limiting factor, not only by corporate standards, but by the employees at Alan and Baker Companies. Gene and Roy knew this all too well.

Lena took the educational credential issue one step farther by considering only top engineering schools as her choice for her degree. She made a very prescient observation that having an engineering degree was not enough to be competent, that she must get that degree at a respected school to stand out from other engineers after graduation.

Working over a long period of time in the manufacturing setting was another way that the women gained feelings of competence. All the women in the study had at least ten years of manufacturing experience. Jayne had worked longer, nearly thirty years, than any of the other women in manufacturing, and was pleased that her competence as an assembler was finally recognized by her male peers. When she recently completed her bachelor's degree, she felt that she was finally qualified to be considered for supervision. She had

turned down an offer early in her career at Baker because she knew she didn't have the knowledge required for the job.

None of the men verbally expressed a need to be considered competent. This was in direct contrast with the women's perceptions. Why was competency in their occupational roles so important to the women but not to the men? Part of the answer may lie in the behavior of men in male-dominated cultures. Rosener (1995) found that men repeatedly test the competency of women in their peer groups but seldom test fellow peer men. She attributes this dual standard to feelings of loss of power and control by men when women enter their traditional spheres of influence. Assuring themselves that women are not worthy competitors, men protect their masculinity and maintain power (Rosener, 1995), thus ensuring that the balance remains in their favor.

Goldberg (1993) supports this notion of challenging women in his assertion that men need to dominate others to gain higher rank in the hierarchy, greater social status, or superiority in male/female relationships. His theory of differentiation of dominance tendency between men and women contends that men need to rule because of neuro-endocrinological differences. Feminists do not necessarily disagree that men more strongly exhibit dominance, but believe that this difference is sociological, not biological (Smith-Lovin & Robinson, 1991).

Another answer to the question about women and competency may have roots in gender role expectation, or for some women, role conflict. "Women are expected to be friendly, unselfish, concerned with others, and emotionally expressive. Men are expected to be independent, masterful, assertive, and instrumentally competent" (Wood & Rhodes, 1991,

p. 106). Indeed, the *traditional* female role has been defined as having four dimensions: beauty, domestic skills, tending to others needs, and romance (Fiebert, 1990). Women in manufacturing aren't employed because they can cook, be beautiful, clean house, hold hands, or have torrid affairs. Men and women in working relationships are often still trying to get past these traditional societal presumptions as illustrated at Alan and Baker.

When women go against stereotypes and enter occupations that are not considered appropriate for women, such as in nontraditional roles in manufacturing, they go against the grain of social expectations (Eagly & Mladinic, 1989). For women in nontraditional roles, it has been hypothesized that this causes stress because they are saddled with the additional responsibility to define appropriate behavior for women, in part, due to lack of role models that preceded them (Kanter, 1977; Kelly, 1991). There is a lot of confusion, misinterpretation, and tension when expectations of men and women as to appropriate behavior don't mesh. Denise observed that she was perceived as too aggressive by some peers, but the same type of behavior by male peers was not seen as unusual. This made her angry at her peers for defining her role in such limited terms. Until women in manufacturing become common in all roles, these difficulties will remain.

Satisfaction

The next factor that was perceived to positively affect success for women in nontraditional roles was satisfaction. Fulfilling a need or desire gives us satisfaction. Whether satisfaction is achieved through intrinsic rewards, such as meeting a personal standard of excellence, or through extrinsic rewards, such as pay, promotion, or status, our achievement behavior helps us to meet the goal of satisfaction (Spence & Helmreich, 1983).

For five women in nontraditional roles in the study, satisfaction was primarily motivated by intrinsic rewards: helping peers and subordinates, being asked for advice, and doing quality work. This is consistent with Offerman and Beil's research (1992) on women leaders that found that they preferred intrinsic rewards and vicarious satisfaction (helping others reach goals) rather than competitive situations that men in their study preferred.

Women and men alike, in this study, found satisfaction in a job well done, but the expectation of rewards were sometimes differently placed. Four women in nontraditional roles sought approval of peers, being a knowledge source, solving a problem between groups, or getting respect as satisfiers. The men in the study had a mix of intrinsic and extrinsic motivation to get satisfaction. Seeking understanding, being a team player, and satisfying curiosity were the intrinsic side of satisfaction for Gene and Frank. Meeting management goals, reorganizing departments, and being promoted were all issues that fed their desire for rewards and satisfaction.

Satisfaction is a component of the larger concept of achievement. Achievement motivation is each person's need to perform well, whether in social, occupational, or leisure situations (Sutherland & Veroff, 1985). Three dimensions of achievement motivation have been identified as mastery (doing well on challenging tasks and meeting internal expectations), work (working hard and doing a good job), and competition (wanting to do better than others) (Spence & Helmreich, 1983). These themes that Spence and Helmreich have identified have broad implication for workplace situations and, indeed, it has been theorized that the satisfaction that a person derives from their work is linked to overall

satisfaction with life (Judge & Watanabe, 1993). Therefore, achievement motivation, satisfaction, and self-efficacy seem to be interwoven threads of the larger tapestry of success.

Three men, three nontraditional women and one traditional woman gave evidence of preference for mastery and high quality work as motivating factors for achievement and, therefore, satisfaction. Spence and Helmreich have theorized that women prefer work motives, while men tend to gravitate toward mastery and competition (1983), but this was not supported in the data of this study. Women and men were found to be similar on the dimensions of achievement motivation when utilizing the mastery, work, and competition trilogy.

For the participants in the study, men and women alike viewed competition in their jobs as a nonexistent entity in their workplace. Three men alluded to some competitive situations early in their careers, but that new management trends toward teaming and group participation had a dampening effect on internal workplace competition. Also, there were few promotions available for people to compete for since the workforce numbers at both companies had not grown significantly in nearly ten years.

In general, the issue of satisfaction with one's job may also serve to broaden the discussion of success for women in manufacturing. The intrinsic motives of accomplishment or autonomy can make a job satisfying, but if pay, recognition, opportunities, challenges, or benefits are in short supply, surely satisfaction with the job would suffer. Thirteen out of fifteen of the informants mentioned in some way-- good benefits, retirement packages, good pay, and reasonable amounts of autonomy-- as facets of their jobs that they appreciated and

made them mostly content. Both Alan and Baker Company benefit and compensation packages are competitive on a national scale.

Varca, Shaffer and McCauley (1983) found that satisfaction with pay has other dimensions than actual income, such as pay in relation to peers, occupational level, and type of job. Cindy's insistence that a paycheck was not a motivating factor for satisfaction may support this hypothesis.

Three women in the study stated they were content with their current position in the organization. Lena was the only person in the study who had received a recent promotion. All the rest of the women had not been promoted in the last five years, with Alice, Cindy, and Phyllis never receiving any promotions or transfers to new positions. But only one, Sally, expressed extreme displeasure about the lack of advancement opportunities. The rest seemed resolved to the situation or were still maintaining faint hope.

This satisfaction with current compensation and advancement opportunities in the case of the women is consistent with research on job satisfaction differences between men and women. In a study of husband and wife management teams, the women were found to be more satisfied with their pay and advancement situation when compared to the men of the study (Summers & DeCotiis, 1988). Part of the underlying theory for this difference is that people tend to rationalize situations where they are heavily committed. In this study, twelve of the fifteen informants were employees with family ties to the community. The women consistently indicated they selected their employer because it was near their hometown and offered better compensation than other local employers. Of the women, only Lena came from a different geographic region of the country to take a job with Baker Company. In

contrast, three men had relocated to take positions at Alan Company. Two women had followed their husbands to the local area and had sought jobs at Alan as a result of these circumstances.

The men seemed mostly content with their current situation, but Bill and Dan indicated that they expected to be promoted in the future. Thirteen participants indicated they were interested in new opportunities. However, only three of the men felt sure they would be offered new challenges if they desired them. For two men, retirement was in the not too distant future, thus they were fairly content with their present situation. This satisfaction with their situation was based on slightly different expectancies than the women; that is, the men saw that there were opportunities if they chose to pursue them. More on this issue later.

Mentoring and peer support

For two of the women in nontraditional roles, mentoring had a significant impact on the opportunities they were offered and their advancement in the organization. Martha had more than one male manager at Alan Company who worked with her to give her opportunities, advice, and support in her climb up the management ladder. Lena had the support of her supervisor and the Baker Company plant manager, both giving advice and promotion opportunity. For both of these women, their only options for mentors were men due to the lack of women in either company's management hierarchy above middle management.

There are many benefits to be derived from a mentoring relationship, especially for women protégés. Women in male-dominated occupations are frequently labeled as tokens

(Laws, 1975) and face obstacles such as stereotyping or discrimination (Reskin & Roos, 1990). Ragins (1989) believes that mentoring relationships for women are absolutely critical to their advancement into managerial roles.

This is consistent with the results of this study. The two highest ranking women, Martha and Lena, were the only women who had a traditional mentor/protégé relationship. Other women had peers or supervisors who gave limited situational opportunities to them, but career advice and brokered opportunities over an extended period of time from a single personality in management didn't happen for them as for Martha and Lena. One of the men, Gene, had two mentors who offered training in technical and problem solving skills, rather than advancement opportunities.

Beyond mentoring, peer support seemed to be a tool that many of the informants utilized to increase knowledge, open doors of opportunity, or gain limited access to power or resources. Denise became vocal about her need for challenging assignments and was rewarded with several productive moves across departments. Matty's supervisor awarded her more administrative duties and promotions, despite his negative feelings about women in the workplace. Her hard work, consistently positive results, and conscientiousness were helpful in negating the token status she was initially perceived to occupy by other employees at Baker. Roy and Bill had advocates who were able to put a couple of opportunities in motion for them, but the relationships split off after these initial promotions. Frank had some coaching by peers, but had only one promotion opportunity that he declined.

Dan seemed incapable of giving anyone but himself credit for his successful rise to middle management. His belief in his abilities and self-made status in the organization was

somewhat interesting and proved to have been a sure-footed path to middle management at Alan Company. He fully anticipated going to corporate in the near future. His firm belief that making your own success by getting the necessary qualifications to achieve the objective (i.e. promotion) may be a window on the viewpoint of upper management. At the time of the completion of this study, he had not yet been promoted.

Interpersonal style

Positive relationships with peers, supervisors, managers, and subordinates is a critical component of success for anyone in the work environment. For both the men and the women, the give and take of interpersonal relationships in the manufacturing setting were sometimes seen as trading favors between acquaintances. In other instances, it took the tone of working together toward a common goal. For all the participants, relationships with their peers often had been built over many years, for some it had been decades. This long-term view toward peer relationships seemed to temper sharp criticism or broad praise and raise the level of professionalism in their dealings with others.

Three women used interpersonal styles that could be described as person-centered, interactive, empowering, or participative. Matty's hand's off management style, Lena's view that peers, subordinates, and managers all had unique, desirable qualities, and Martha's holistic view toward meeting the needs of the organization are consistent in ways that women have been differentiated from men in their leadership styles (Rosener, 1990).

Vera and Sally indicated that their preference for a more democratic interactive style rather than an autocratic one, was more comfortable for them, regardless of what their supervisors or peers thought or did. Sally had experienced some negative consequences for

this participative style due to problems with sexist subordinates and peers, but this may have been due to the culture of the foundry she worked in rather than being ineffective in achieving desired results. Eagly and Johnson (1990) support the people-centered interpersonal management approach if the situation warrants this style. In Sally's case, working in a very tough environment for women, her preferred style would likely cause less internal conflict than trying to manage in a way that forced her to present an unnatural façade.

Martha's desire for input from many sources to enable her to make better-informed decisions was viewed by some members of the organization as being indecisive rather than participative. This negative evaluation of her abilities is not uncommon for women leaders and managers. In a meta-analysis of gender and leader evaluation, Eagly, et al, (1992) found that women leaders, especially in manufacturing and business, were at a disadvantage because of their gender. That is, women leaders were found to be consistently evaluated less effective by their subordinates and superiors, even when their management style produced equal (or better) results that their male peers. In an another study, women who utilized more masculine interpersonal leadership styles (i.e. autocratic or directive), particularly in male-dominated roles had improved perceptions of authority with their peers than those who utilized more feminine styles (Eagly & Johnson, 1990). Martha's comment that she was becoming more autocratic in her style is perhaps a harbinger of changing relationships with her peers and subordinates.

Denise could shift into a very aggressive interpersonal style as warranted by the interactions she had every day with external and internal purchasing suppliers. She was also

capable of being very charming with men and women alike, but still seemed to catch flak for her sometimes nonfeminine interpersonal style. Again, the dichotomous situation that women are forced into in leadership roles or high-profile roles may be part of the problem. Purchasing, a more feminized department in the manufacturing environment, may require that women tread more carefully through interpersonal interactions, all dependent on the person and the perceptions that are resident in each situation. Since purchasing activities seem to have more than their share of conflict, (bargaining over contract prices, negotiating deliveries and terms, expediting critical parts, pushing suppliers to comply with exacting specifications), women who utilize more masculine attributes in conflict resolution may be as effective as men in similar interpersonal situations (Korabik, Baril & Watson, 1993). Utilizing a more feminine style may get better ratings from subordinates, but it might reduce the effectiveness that Denise enjoys currently in her position as a buyer.

The situational style that Phyllis, Roy, and Gene utilized was more of an androgynous style that is described as adaptive, sincere, efficient and neutral (Rosener, 1990). Depending on their experience in reading the required style for each situation, these informants may have struck a solid note for effective leadership, regardless of gender attributes. "Leaders derive their status from their followers, who may choose to grant it or take it away" (Denmark, 1993, p. 350). Leaders who can adapt to meet each followers' expectations have better results when contrasted to a unidimensional style preferred by some persons in supervisory roles.

Denmark contends that empowering followers to make decisions, set goals, and maintain the relationship between the superior and subordinate, is consistent with effective

leader behavior (1993). This would give credence to Dan's insistence on his subordinates' setting their own goals and allowing them the latitude to make some key decisions. His interpersonal style in this aspect of leadership was, perhaps, wise. Roy similarly tried to build self-confidence in his staff by giving them more responsibility in their day-to-day decisions.

On the other hand, followers will take control of situations if they believe the leader doesn't fulfill expectations (Denmark, 1993), and, in one case, this did initially occur when the woman was undermined by a peer in front of her troublesome subordinate. By taking the offender aside and letting him know he had crossed the line, Sally may have taken care of her problem with her peer, but she left the problem with her subordinate unresolved at that point in time. Better that she had stood her ground in public the first time the male peer had denigrated her in front of her subordinate. It may have made an enemy of the peer for the time being, but from her other observations regarding this supervisor's treatment of other women, she missed an opportunity to effect a change in his view regarding women. This situational decision-making process, that is, using methods as you believe the situation warrants, is never perfect (Yammarino & Dubinsky, 1992). From my Monday morning quarterback point of view, it is easy to second-guess Sally's actions and other factors may have compounded this situation.

My observations regarding the lack of facial expression on the part of three of the men in their greetings in the hallways was normal behavior for men in a workplace situation. In their research on nonverbal behavior, Hall and Briton (1993) found that men are expected to keep somber expressions in the workplace as a result of societal and individual

expectancies, while women are expected to smile and be friendly. This stereotyping of men as being cold and hostile is consistent with the interpersonal trait of status and is characterized by agency in behavior (Moskowitz, Suh, & Desaulniers, 1994).

On the opposite axis of the interpersonal circumplex, more communal behaviors expected of women, such as friendliness and consideration, are to be found (Oxford, 1994). What this comes down to is that men and women often behave in stereotypical ways, especially in agentic situations such as the workplace where supervisory roles dictate dominance and leader behaviors (Moskowitz, et al, 1994). Frank and Vera's discomfort with autocratic methods of interaction were more indicative of traditionally feminine styles of interaction. Frank's reluctance to tell peers or subordinates what to do, choosing to use a smiling, submissive style when negotiating his needs in the workplace, may explain his lack of extrinsic achievement. Vera's admitted avoidance of conflict may have been another example.

Barriers to Success

Research question 3 asked if there were other factors that had a greater significance in achieving success as defined by women in nontraditional lower-level roles in manufacturing. As the results in Chapter 4 indicate, I believe that the barriers of the glass ceiling, gender issues, and the corporate organizational culture have had a *negative* impact on successful outcomes for this group of women. For this reason, I have taken the approach to answering this research question by discussing barriers to, rather than achieving, success.

The glass ceiling

In both companies, women were not found in positions beyond middle management levels, and were rare even in that capacity of the management hierarchy. Martha, the only female middle manager in the study, had the education and the intelligence, but apparently was missing some other qualification. She did not see much chance of rising higher in the Alan Company management structure.

At Baker Company, Lena was breaking through barriers in her promotion to engineering supervisor, something that no woman had done before. Still, she was an anomaly at a company with fewer than ten percent of the total women employees in nontraditional roles. All the women in the study mentioned the glass ceiling at their respective companies and had become rather resolved to its silent presence.

Morrison and Von Glinow (1990) studied the problem of the "glass ceiling" citing three theories regarding the reasons for the exclusion of women and minorities from promotion to upper management. They identified the reasons as: differences (from the white, male hierarchy that is imbedded in manufacturing), discrimination (bias, attitudes of men in power, stereotypes based on past perceptions), and systemic barriers (social policies and practices that sustain discrimination) (Morrison, et al, 1990). Therefore, a woman may be doubly disadvantaged in promotion situations since she is not only violating social norms by being in a nontraditional job, she is of the wrong gender for integration and assimilation in a male culture.

Other reasons for women hitting the glass ceiling are often associated with women's work patterns. Women with families sometimes opt to take time off from work while their

children are young and return after the children are in school. This tends to have a detrimental effect on promotion and salary (Strober, 1982). Some try to circumvent the "Mommy Track" (women who are sidetracked in their careers when they take time off to have children) by waiting until the last moment to start families, thus gaining as much career status and corporate value as possible before the leave (Davidson & Cooper, 1992). "There is, in fact, a level of risk to the corporation and to those who have made an investment in a high-potential female manager when she is confronted with the "priority decision." " (Morrison, et al, 1992, p.120). This is the dilemma for woman in higher authority and power positions in the organization and who's absence would have a higher impact on work continuity.

This situation was exemplified in the backroom discussion of Lena's pregnancy and her capacity to supervise the engineering department after the birth of her child. In trying to second-guess what Lena would do after the baby was born, the management at Baker seemed reluctant to promote a deserving candidate, rather than risk the possible cost of a decision by Lena to scale back her workplace involvement in favor of motherhood. Despite this debate, she was promoted to the relief of her supporter, the plant manager.

None of the women in the study who had children indicated that they had taken any extensive amount of time off when they had children. Six weeks for pregnancy leave was the standard length of time offered to female employees at both these companies. Even Lena did not plan to take full advantage of the time off regulated by the new Family Leave Act when she had her baby.

Gender issues

The issue of discrimination was not an easy one for me to address. It's the dirty little secret that women try to ignore in the hope that it will go away. In American society, we often try to blame the victim for the ill that befalls her. On the issue of the dual standard, the women would talk about it freely with me, another woman, but were obviously uncomfortable with directly confronting the subtle occurrences in daily workplace interactions with their male peers. It was as if they were reticent about being labeled a trouble maker or worse, a feminist.

Two older women in nontraditional roles were less intimidated by the stigma of discrimination, preferring to joke about it to ease their anger, or to ignore it altogether. Two others were more aggressive with men who committed undesirable behavior. They both confronted the individuals about their errant behavior and were able to go on with their business after these unpleasant experiences. In the incident with the group of managers and salesmen that harassed Denise, her failure to laugh at their teasing signaled to some that they had crossed the line of propriety.

Lena seemed adept at protecting her interests when she became aware there was a discrepancy in treatment. By letting her peers know she was willing to go out into the field as the men did to solve a particular engineering problem, she let them see she was competent and capable.

The men's views on discrimination against women in the workplace was helpful in understanding how the predominant culture in a manufacturing organization perceives gender issues. On first blush, the interview transcripts revealed a group of men, trying very

hard to be honest but politically correct. An example was the fact that two of the men mentioned their religious faith in describing influences in their lives. None of the women alluded to their religious beliefs, nor was the subject of faith a common topic in day-to-day interactions in the manufacturing environment. I attributed the incorporation of this subject as an inadvertent effort to impress me as being good Christian men. Although these efforts were admirable and sometimes appreciated, I continued to have some lingering doubts about their true perceptions. After subsequent follow-up questions with some of the women and other male informants, and analyzing the data closely, some gender differences in the perspectives toward the culture of manufacturing became evident.

Men at the Alan Company have respect for the women they work with but there is a fundamental belief that most women haven't paid their dues. The comments by Roy about how cute one of his female subordinates was and the perceived incompetence of another female subordinate was interesting. Gene stated that the female engineers he worked with were technically competent, but needed a good dose of courage to become more effective. Several times, when asked about competence of women versus men, my female informants at both companies quoted the old line "...you have to be twice as good to be considered half as good..." perhaps indicating that this belief still exists for women in the manufacturing culture. Men in the manufacturing setting may have a hard time getting past initial impressions if they continue to see their female peers as sex objects or stereotyping women as technically-challenged peasantry or, worse, mentally incapable of understanding processes.

An interesting result of the analysis was that I discovered that four men in this study only perceived barriers that were within their locus of control. Finishing a bachelors' degree, accepting rather than turning down a promotion, or getting a few more qualifications, were factors that they could control by their own behavior.

Conversely, seven of ten of the women encountered barriers that could be described as being rooted in societal perceptions, organizational culture, or lack of power.[3] Lack of experience due to traditional career paths, lack of support from peers and superiors, missed opportunities, and assumptions regarding capabilities are often the result of long-standing beliefs about women and their stature in the manufacturing environment. Barriers such as these have been documented as being beyond women's ability to control, and have had negative effects on vocational achievement (O'Leary, 1974; Morrison & VonGlinow, 1990). These systemic barriers often go unchallenged in organizational cultures such as manufacturing.

The underlying issue was that the men strongly believed that success, in terms of extrinsic materialization in the form of promotion, better assignments, or stature, could be achieved with more effort on their part. The women had no such assurance of success. That is, most of the women who had the desire to climb higher in their respective companies and who had the intelligence, aspirations, and experience believed that their chances for advancement were questionable.

I compare this situation for women in manufacturing with one of the college fraternity, where the accepted members of the group know the secrets that will unlock the

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[3] For an overview on power in organizations, see Appendix B.

door to special privileges only approved pledges can have access to, and the outsiders are just that, outside. The fraternal atmosphere of manufacturing has been studied at Ford Company, where working in a factory became equated with masculinity (Lewchuck, 1993). It was the quintessential men's club and this predilection continues today in many manufacturing organizations. The problem that women face in this scenario is that the key to the door may be something as unattainable as a specific sex, rather than something changeable as acquiring knowledge, experience, or power. This is the segue to the next barrier for women, the organizational culture.

The corporate organizational culture

The traditional nature of both the Alan Company and the Baker Company was based on nearly a century of patriarchal hierarchies that, until the 1970s, had not consistently included women in the workforce, other than in clerical positions. Mintzberg (1979) referred to these types of organizations as *machine bureaucracies* where tasks have been routinized, rules and regulations abound, and power is centralized.

Corporate organizational culture falls under the larger umbrella of culture with some adaptations for the climate where they exist. The definition of organizational culture ranges from, "how things are done around here" (Drennan, 1992; Bernstein & Rozen, 1992), to "a pattern of values, beliefs and expectations shared by the organization members" (Huse & Cummings in Eubanks & Lloyd, 1992), to an itemization of their characteristics: "...innovation, stability, respect for people, outcome orientation, detail orientation, team orientation, and aggressiveness" (Chatman & Jehn, 1994, p. 525). Mintzberg referred to

organizational culture as ideology that surrounds the structure of the organization and represents the customs and beliefs that make each organization different (1989).

A common saying at Alan was "that's the Alan Way," meaning that behavior within the confines of the organization seemed to suspend reality outside the gate of the factory. Doing what was expected of you, regardless of your personal reservations, was a common presumption for several of the respondents.

The culture of the organization has an impact not only in the industrial, commercial, or public sector where they exist, but, as noted, in the members' personal lives. The organizational culture in this context could be categorized as either markets, hierarchies, or clans, dependent on the type of control exerted upon individual actions within each culture (Wilkins & Ouchi, 1983). Markets are the situations where participants have the opportunity to exchange objects for money relevant to prices and competition (Weber, 1922/1947). Thus, members often join an organization dependent on offers for pay and benefits.

Hierarchies, or bureaucracies, have intrinsic rule structures that may require members to have technical expertise, socialize into their position and recognize authority's legitimacy to watch, evaluate and direct the members of the culture (Ouchi, 1980). At Alan and Baker Companies, technical competence was relative to the needs of each position or role.

The clan-oriented culture uses social ideals and a sense of belonging to exert control on the membership, in addition to acknowledgment of the authority structure (Ouchi, 1980). The clan-oriented culture may be more commonly found in manufacturing enterprises due to the cyclical changes in product and processes that cause job requirements to also evolve,

thus creating a need for mutual trust and shared beliefs to maintain the system (Bates, Amundson, Schroeder, & Morris, 1995). In this way Baker and Alan Companies built a cultural ethic, a sense of belonging for their employees, and, in return, these companies expected productivity and loyalty.

Another view of organizational culture is "taken-for-granted assumptions that people make about how work is to be done and evaluated and how employees relate to each other and significant others, such as customers, suppliers and government agencies" (Eubanks & Lloyd, 1992, p. 28). This would indicate that culture is not a conscious thing that members are aware of, but rather have accepted as the normal operating procedures for the corporation or industry. Dauch (1993) advises new manufacturing managers to let the organization "absorb you" rather than coming in and trying to make aggressive changes in the culture. This absorption process is part of the ritual to becoming an insider in the culture and is dependent on how well the new member may fit the existing member profile or paradigm.

Organizational cultures can be as diverse as the type of industry in which they operate or even the management style of each particular branch or facility (Peters, 1994; Chatman & Jehn, 1994). This was the case where the difference between the Alan Company facilities was palpable. The political component of any organization is driven by the need to acquire power, prestige, information, resources, and compensation as distributed by the management hierarchy (Salaman & Butler, 1994). Thus, the style of interaction that management has adapted to utilize within the organizational culture has significant impact on the success of the business (Senge, 1994).

The cultures at Alan and Baker did not specifically conspire to differentiate in the treatment of women in their employ, rather the behaviors and expectations toward women seemed to be ingrained into their traditions. When Martha laughed at the men who tried to avoid her because they were nervous about being sued for discrimination, it was not because they were at a disadvantage with her. She laughed because they finally got some comprehension of the ramification of their actions. Conversely, Lena looked forward to her new role as an engineering supervisor and being acknowledged by her male supervisors. These events seemed to indicate that change may be in the wind, even though some of the players may not completely understand the rules as they are being rewritten.

Gender Roles and Social Identities

Why do some women pursue careers that are considered nontraditional in nature, while other women would never give a thought to some professions as a potential occupational choice? Much of the answer may lie in the societal expectations and cultural norms that are drilled into us from birth.

Pink blankets for baby girls and blue blankets for baby boys evolves into typist jobs for women and engineering careers for men. Social expectations for male and female career choices start as early as the toys and games children are given. Lego Blocks can become representations of engineering projects, preparing young minds for complex three-dimensional models in math or physics, while Barbie dolls seem to encourage playing house, fashion model, or clothes horse. Gender roles reach back into our childhood and shape our goals, perceptions, and expectations of success as adults (Eccles, 1994).

Subtle messages are found everywhere and become accepted without challenge. For example, there is an almost universal belief that feminine symbols are inferior in all ways to masculine symbols (Colwill, 1987). For example: housewife versus banker, women's versus men's sports, taking care of children versus taking care of business, strength versus fine motor skills. These beliefs are a difficult social obstacle to overcome for any young woman with high hopes. Additionally, individual and environmental factors, such as education, personality, and family situation, are believed to have an impact on career choices that we make (Sonnenfelt & Kotter in White, Cox & Cooper, 1992). Therefore, a young girl has few incentives to aspire to any career beyond what her parents, peers, teachers and/or social group expects of her.

Eccles (1994) believes that gender role socialization affects success in that "[gender roles and social roles] define what one should do with one's life in order to be successful in that role"(p. 600). If a woman believes that to be considered successful she should assume the childcare and support positions in the home, then she places a higher value on successful outcomes in this arena rather than sacrificing them for the pursuit of a professional career. The reverse of this situation is often true for men.

Job satisfaction has been found to be negatively affected by role conflict and role ambiguity in women (Itzhaky, 1995). Women who feel confident in entering careers or occupations that are nontraditional may derive a sense of satisfaction through personal motivation to achieve. For a woman who is thrust into a position that makes her uncomfortable, such as a nontraditional role, the conclusion that she will seek affirmation or employment in other places is a logical one. When it becomes commonplace for boys to

dream of being nurses and typists, and girls to aspire to be jet pilots and truck drivers, then other issues that are more important for the betterment of all people's situations can be more effectively addressed.

Summary of Conclusions

To bring this discussion to a close, a summary of the conclusions on the issues surrounding success for women in nontraditional roles is presented here. Within the manufacturing environment, there are ways that women and men perceive they have succeeded. For women in nontraditional roles, success was perceived as being competent, getting satisfaction, having mentor or peer support, and utilizing an adaptive interpersonal style. The men had similar perceptions of success: getting satisfaction, finding peer support, and using an effective interpersonal style.

On the other side of success, there were barriers to achieving success that women in nontraditional roles, in particular, encountered in the manufacturing setting. The glass ceiling, gender issues with respect to perceived discrimination and differential treatment, and the corporate organizational culture all served to act as deterrents to success for women in nontraditional roles. Conversely, the men did not encounter these barriers. Rather their barriers were somewhat self-imposed: lack of a degree, turning down promotions, and lacking qualifications.

Implications for Future Research

This study was significant because there have been few, if any, studies of women in nontraditional roles in lower levels of the manufacturing hierarchy. By giving women in these roles an opportunity to share their experiences, beliefs and perceptions, the body of

empirical knowledge on women in these unique situations has been expanded. In addition, this study, in its qualitative methodology, has presented a depth of understanding about success for women in nontraditional roles in manufacturing that may lay the groundwork for future research.

Currently, women comprise nearly fifty percent of the American workforce. If women and their diverse capabilities are incorporated into all areas of the manufacturing environment, organizations may benefit from the different perspective they bring to the workplace. This study may serve as a foundation for research on women in blue-collar, pink-collar, or other occupations beyond lower-level, white-collar, nontraditional roles. It should be noted here that the resulting themes of success for women in nontraditional roles could be described as selective, but not exhaustive, due to the limited number of persons used in the study. Broader studies using a larger pool of participants are indicated.

This study has also expanded the understanding of the culture of manufacturing from the feminine perspective, and, therefore, may have value for researchers interested in divergent views on organizational culture, fraternalism, and nontraditional roles. Further research on women's perceptions and interactions within male-dominated occupational fields may also prove informative. The study revealed that women in nontraditional roles can be fully participating members of the organization, despite the barriers they face. If societal barriers with respect to gender roles and expectations were lowered or removed and women were given a chance to experience the full measure of the manufacturing environment, imagine what could be accomplished. Further studies on the impact of gender barriers in the workplace could be a step toward defining this problem in more concrete terms.

The barriers that were revealed; the glass ceiling, dual standards, and unaccepting cultures are issues that are much larger than any one manufacturing company. But this does not excuse the continuation of this behavior. For this reason, the study has shed some light on the nature of problems that women and other affected classes face in the context of nontraditional vocational aspirations. Further research on feasible remedies to these barriers, beyond cognition, is warranted. Learning how to share power, encouraging learning organizations, and addressing tolerance and diversity issues, are themes that might be a starting point for making change. We owe the next generation of manufacturing personnel this much at least.

APPENDIX A:

THE PILOT STUDY

CORE INTERVIEW QUESTIONS

DEMOGRAPHIC SURVEY

The Pilot Study

Armed with an interest in women in manufacturing in nontraditional roles, previous research results on women in business, many unanswered questions, and a basic understanding of the qualitative technique, I realized that it was time to go into the field. My interviewing skills needed polishing for data collection for the main study, so I dug out my Rolodex and asked a former co-worker, Phyllis, if she would grant me an interview. Since I needed to access a specific population that might not be easily found through random sampling of employees at a company, selecting a person whom I had identified as being a good source of information was entirely appropriate. As discussed earlier, one of the advantages of the qualitative method lies in purposeful sampling to gain access to appropriate data.

We arranged an interview time and met at the front gate of the Alan Company. As we walked back to her department, we chatted about what I had been doing since I left several years before. She expressed some astonishment when I told her I was pursuing my doctorate. I quoted the familiar line I had heard in the hallways at Alan many times, "there is life after Alan, you know." We both had a good laugh.

The interview went well. I was able to use my list of core questions to keep myself on track. A copy of the core questions follows this account of the pilot study. At the time, I was still entertaining a quantitative component to the research study, so I asked each interviewee to complete a short demographic survey and fax it to me at their leisure. Four of the five women in the pilot study responded to the survey. A copy of the survey is also provided in this appendix.

Phyllis recommended another women in a similar position at another Alan Company facility that would be a good person to talk to regarding women in nontraditional roles. I followed up that advice later and arranged an interview with Vera in the shipping facility lab.

My interviewing technique improved in the interview with Vera and I was able to ask a couple of additional questions on similar themes between this interview and the interview with Phyllis. Vera recommended another women in middle management at the shipping facility. I located her phone number and after a few tries, was able to negotiate a time and place to meet for an interview with Martha.

Martha was the highest level woman I was able to locate at the Alan Company. She was a labor grade 10 on a scale of 1 up to 33, where middle managers ranged from grade 8 to grade 12. This was a tough interview. She was guarded in her responses and tended to analyze her words before she elaborated on a point. She did have a sense of humor about some of the problems she had encountered which gave me a bit of insight into her interpersonal style. At the end of the interview, I asked the standard question about anything else she wanted to add. Martha really surprised me by making a point to tell me about a support group of female middle managers she belonged to. I had never thought to ask about female peer support systems. It was an interesting way to cope with the pressures of being a female manager.

The next interview was out my old Rolodex file. I contacted Denise in purchasing because I heard she had been recently promoted to production buyer and I knew that she had been in nontraditional roles for many years. We arranged to meet over drinks after she got off work. I got my first account of overt harassment from Denise and began to wonder

about what the men were actually thinking when they did some of the things she described. Denise suggested that I interview Sally, a woman who was working in the foundry as a production supervisor.

Within a few days, I had arranged to meet with Sally. The interview was conducted in a closed office with glass windows onto a busy hallway. She was very apprehensive when I told her the interview would be taped, but I assured her that only I would have access to the raw data. After a few questions, it became apparent she was a bit uncomfortable with people walking by in the hallway seeing the tape recorder on the table. I moved it so that it was in front of me, hidden from view. Her responses became more focused after this move.

During the course of the data collection process, I continued to review the literature on themes that emerged in succeeding interviews. I would sometimes incorporate questions in the subsequent interviews, depending on the relationship to the goal of the pilot study. I quickly found that the problem of "scope creep" can sidetrack a study very easily. By returning to my original research questions and revising them only after the themes in the pilot study data supported their relevance, I managed to keep the pilot study pretty close to task.

I ended up with over 50 single spaced pages of transcripts that continue to provide insight for the larger research study. My fieldnotes facilitated writing this account; thus, the time spent generating them was worthwhile.

Core Interview Questions

1. Why did you select manufacturing as a career field?
2. How did you arrive at your current position?
3. Were you ever mentored by anyone?
4. Have you ever mentored anyone?
5. How would you describe your managerial style? (i.e., How do you get people to do what you want them to do?)
6. Do you prefer to accomplish major tasks by yourself or do you function better in a team environment?
7. How do you respond to competition from peers?
8. Why do you think you have been successful?
9. Could you describe a successful event in your career?
10. Have there been any barriers to accomplishing your career goals?
11. Did you participate in sports in school?
12. What do you believe the future holds for women in manufacturing?
13. If you could do anything in the world, and money or time was not a concern, what would it be?

DEMOGRAPHIC SURVEY

Years in present position _____

Number of positions held in manufacturing _____

Years with current employer _____

Number of promotions with current employer _____

Formal Education:
H.S. _____ A.A. _____ B.A. _____ B.S. _____ M.A. _____ M.S. _____

Other: (list)

Informal Education:
Please estimate the number of hours training you have received in the past 5 years through your employer (workshops, seminars, equipment training, etc.)
less than 5 hrs. ___ 5-25 hrs. ___ 25-50 hrs. ____ 50-100 hrs. ___ 100 hrs.+ ___

What professional organizations do you currently belong to? (please list)

Are there any additional comments you would like to make regarding topics covered in the interview? (use other side if needed)

Thank you for your kind assistance.

Fax or mail using pre-addressed stamped envelope to:
Teresa Hall
(Fax number)

APPENDIX B:

WOMEN, MEN, AND POWER IN ORGANIZATIONS

Women, Men, and Power in Organizations

Power, depending on the perspective, is a strong force in the daily lives of organizational members. The disbursal of power affects prestige, compensation, and influence. Ragins and Sundstrom (1989) define power as "influence by one person over others, stemming from a position, ...an interpersonal relationship, or from an individual characteristic" (p. 51). Power in this perspective is limited to an individual rather than a department or group.

Others have labeled power has having many dimensions within the organizational context: *power over* is associated with dominance, *power to* is shared power related to empowerment, and *power from* is the ability to fend off unwanted demands (Hollander & Offerman, 1990). This broadened definition of power acknowledges persons in lower positions as having access to power.

Power and prestige influence the members of organizations differently, dependent on their role or identity. Identity within a culture gives the member clues as to the capacity of their role, while the role defines behavior appropriate to a person (Keesing, 1981). Thus, a manager and administrative assistant understand their respective areas of responsibility and the power that each has within the relationship. Mechanic (1962) states that the behavior of persons in an organization is driven by the positions within the power structure. Thus lower ranking persons in the organization use access to information, persons, or resources as power control devices (Mechanic, 1962).

There is agreement on terms that can be associated with power, such as that power is about relationships, power is situational and power is an imaginary substance (Keesing,

1981). The relationship factor certainly hits the mark, since power between individuals, peers, hierarchies, internal and external forces to the organization or between organizations is how the relationship is perceived by the players. The situational aspect of power is another accurate descriptor since powerful individuals or groups in one organization may have no impact or "pull" with others outside their sphere of influence.

Within the organizational context, personal attributes such as the ability to articulate, being socially adept, and competence, in addition to elevated status in the organization and access to information characterize persons with power (Pfeffer, 1992). The ability to utilize the proper attribute in the proper situation is another important source of power. This attribute, according to Pfeffer is sometimes referred to as charisma, where one person can easily influence others within their sphere to accomplish goals that are ideologically aligned with the group's needs.

The negative side of power can be the result of misuse. Lord Acton's observation that power corrupts and absolute power corrupts absolutely has applications to political, business, and social situations. The ability to control or effect change in others is sometimes desirable when viewed in the business context (Quick, 1985), and inevitable in institutional structures where one group is restricted and/or demeaned by another, as in the case of the lowly status of women in most societies (Keesing, 1981).

Indeed, the power that men have enjoyed in most economic, political, and social situations is taken for granted by men and women alike (Goldberg, 1993). Goldberg asserts that societies that give women great respect versus those that give women equality turn a

situation of women winning, in the former, to losing, in the latter. He reasons that men will always occupy powerful positions in societies and that:

> A reduction of the status and respect given to roles which only a woman can fill forces women who desire status to compete in areas in which the males' greater motivation is a precondition for attainment, and reduces the respect given them (p.56).

Naturally, there are those who are of a different point of view regarding male domination. Some contend that much of the research and theory regarding women tend to categorize then "according to chronological age and position in the marital-reproductive life cycle" (Gergen, 1990, p.476). Evidence of this belief as the primary female role is upheld in Goldberg's work (1993), through the definition of traditional female roles as beauty, domestic skills, mothering, and romance (Fiebert, 1990), or the categorization of secretary, mother, housewife, conformist under conservative gender stereotypes (Six & Eckes, 1991). Frosh (1995) believes that the recent challenges in the literature to masculine superiority has spurred a backlash from men in the form of power hoarding, insecurity, and violence toward women. He goes on to propose that feminists have failed to recognize masculine vulnerability and both sides must work toward common ground.

In her classic tome on relationships within corporations, Kanter states that "power begets power" (p. 168, 1977). If a person is favorably situated in an organizational hierarchy and is perceived to already have power to get things done, then they will tend to garner more support from followers, she concludes. This is a spiral of power that tends to accrue influence "points" for well-established or well-known members in the organizational power structure. Thus, embedded power structures in organizations are difficult to change

and may preclude women and minorities from gaining access to power without assistance from the already powerful members of the hierarchy.

Power structures within the organization can be supported by formal or informal networks. Formal networks are described by the line and staff organizational charts that illustrate the reporting relationships between members and between departments or divisions in the organizations. Formal power networks are linear and tend to flow upward to the more influential ranks (Weber, 1922/1947; Kanter, 1977; Ragins & Sundstrom, 1989). The bureaucratic model is an example of a formal power network where reporting and power ascends the ladder to the top officer of the organization.

Informal networks are another way that power is affirmed and distributed among hierarchies. Deals and promotions that have been sealed on the golf course or during an after-work lounge session have traditionally been the territory of men who had the autonomy and power to attend these information sharing opportunities (Cutler, 1993). If a woman, or other outsider, is invited to attend such a ritual or rite of passage that may allow access to the inner circle, she must be able to read all the subtle signs that are part of the test or risk rejection by the tribe (Bernstein & Rozen, 1992). Being accepted by more powerful persons in the culture is the gateway to accessing power.

Women have been found to be more adept at building informal networks, but tend to limit their circles of influence to less powerful personalities in the organization such as peers or other women in the same situation or rank (Brass, 1985). The networks that can have greater influence on promotion or power sharing must be built with the men that make the

critical decisions in the organization, not necessarily an easy task to accomplish for many women. But the reality is that it comes back to "power begets power".

Other studies of informal networks noted that those who attributed authority to power holders did so to retain their self-potency image (Cobb, 1980). Cobb also found that within peer groups, expertise, reward, referent, and coercive power were highly intercorrelated. Thus informal influence is broad reaching in day-to-day relationships between group members. This may be due to the perception that a powerful peer or supervisor can improve the member's personal situation as well. In the age of restructuring and cost cutting in organizations, the need to be associated with powerful persons in social and informational networks within corporate structures can be the difference between survival or termination in the event of downsizing or management change (Rosener, 1995; Allen & Panian, 1982).

In business and industry, women have been primarily utilized in supporting and low-power roles. Labeled as traditional women's roles, clerical work, nursing, K-12 teaching, and retail sales are bastions of pink-collar employment where low pay, few benefits, and little advancement opportunity are the norm (Department of Labor, 1991a). Occupational segregation tends to push women into positions that have little autonomy or authority (Jaffee, 1989). Although there have been many glowing reports of increased numbers of women and minorities, a closer look reveals that they are still concentrated at the bottom of the power scale (Department of Labor, 1993b; Jaffee, 1989; Morrison, White, & Van Velsor, 1992).

Changes in the balance of power have been slow in coming for women as evidenced in the low numbers of CEO's and top executives in general within the closely watched Fortune 500 (Aburdene & Naisbitt, 1992). Several theories as to the reason for this gap have been offered. In a study of men and women with regard to the situation of job dependency and powerlessness, women tended to acquiesce to more powerful individuals in the workplace more frequently than men in similar circumstances (Mainiero, 1986). By yielding, women give up power to others, thus reducing their power base in the organization.

In many organizations, employee participation and empowerment campaigns have been instituted as Total Quality Management (TQM) and other similar techniques are implemented. Although decisions may be driven down to lower levels in the hierarchy, the reality is that most professional, technical and managerial personnel already have power and autonomy and, "empowerment for the secretary, the data-entry clerk, and even the woman office manager may translate into little more than company posters with upbeat slogans on the walls" (Blum & Smith, 1988, p. 543).

The theory regarding the normative nature of power is that those persons who are part of the existing power structure present the situation as the normal state of circumstances and alternatives are not seriously considered (White, Cox & Cooper, 1992). In many cultures men are accustomed to being dominant in the workplace and politics while women were dominant in the home and family environment (Marshall & Paulin, 1987). When women do enter situations that are male-dominated, they may allow the dominant

culture to define their roles, based on low expectations, and thus, be the recipients of paternalistic and over-protective behavior (Kanter & Stein, 1979).

Men may also have a problem with relinquishing power to women in many situations. "Power has become the key ingredient in male self-esteem and for many men, the definition of being a man is tied to possession and use of power" (Kahn, 1984, p. 241). By intruding into the masculine world, women are frequently perceived as outsiders, usurpers, or even pretenders (Davidson & Cooper, 1992; White, et al, 1992; Forisha & Goldman, 1981; Colwill, 1987). Sharing power with women is difficult for men who continue to believe that men represent *culture*, rational and regulated, while women represent *nature*, sensory and organic (Cockburn, 1992; Gergen 1990). This fundamental difference in the sexes has been debated with a wide variety of conclusions and recommendations, none of which effectively resolve the power balance between the sexes.

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